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The effects of social/vocational training on verbal responses in the work setting of adults with mild or moderate retardation : a replication study.

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The Effects of Social/Vocational Training on Verbal Responses in the Work Setting of Adults with Mild or Moderate Retardation: A Replication Study

A Dissertation Presented

By

Kay Thorpe Bannon

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To my husband, Ken, and my children, Clif, Carl and Donna.

A C K N O W L E D G E M E N T S

I wish to express my deep appreciation to Dr. Patricia Gillespie-Silver, my chairperson and academic advisor. Her wisdom and guidance have contributed immeasurably to the completion of this doctoral program. I am also grateful to the members of my committee, Dr. Joseph Campbell, Dr. Ronald Fredrickson and Dr. Frank Lattuca, for their encouragement and guidance.

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ABSTRACT

THE EFFECTS OF SOCIAL/VOCATIONAL TRAINING
ON VERBAL RESPONSES IN THE WORK SETTING OF
ADULTS WITH MILD OR MODERATE RETARDATION:
A REPLICATION STUDY

MAY, 1986

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This study explored the effects of a 12 session table game social/vocational skills training program on the verbal responding behavior in the work setting of six adults with mild or moderate retardation. The study was a replication of the Foxx, McMorrow & Mennemeier (1984) study utilizing the table game "Stacking the Deck - A Social Skills Game for Retarded Adults" (Foxx & McMorrow, 1983).

Six adults with retardation who were deficient in social skills needed in the work environment were identified and divided into two groups, Group One (n=3) and Group Two (n=3). Group One and Group Two participated in baseline games (four and eight respectively) followed by 12 training games that featured response specific feedback, self-monitoring, individual reinforcers and individual performance criterion levels. The experiment used a multiple baseline across groups

design. Controlled observations (12 measurements for each group) revealed increased correct verbal responses were attained in all targeted areas. However, group as well as individual inconsistency in responses during the training program indicated that variables other than the intervention were affecting the responding behavior of the subjects.

Words per response increased in the game sessions as well as in the pre and post simulation evaluations; however, Group One results were stronger than those of Group Two.

The post training simulations results indicated the learned responses had generalized. However, again the Group One results were stronger than those of Group Two.

Repeated generalization measurements of the subjects' appropriate verbal responses in the work setting failed to establish a consistent result of the training sessions. Repeated generalization measurement of the subjects' correct responses to game situations in the work setting were equivocal.

The replication study involved training in the natural setting as opposed to training in a separate place as was done in the Foxx et al. (1984) study. Training in the natural setting (work environment) did not facilitate the generalization of targeted verbal responses. Reasons for inconsistency in verbal responding in the game sessions as well as in the work sessions were discussed.

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CHAPTER I

INTRODUCTION

Statement of Purpose

The purpose of this research was to determine the effectiveness of a modified table game in teaching appropriate verbal responses in six social/vocational skills areas (compliments, social interaction, politeness, criticism, social confrontation and questions/answers) to workers with mild or moderate retardation. Associated areas of interest were to determine the generalization of targeted responses learned in the table game condition to nontargeted responses in a simulated condition and in a natural condition (the work setting). Additional questions of interest included the following: would words per response increase as a result of the game training sessions; would overall work adjustment improve as a result of the training; and would training in the work environment facilitate the generalization of targeted skills to that setting?

Background of the Study

Persons with retardation have historically been denied comparable opportunities readily available to the majority of our population (Neufeldt, 1978). This lack of opportunity

may be attributed in large part to the social incompetence historically associated with this population (Wolfensberger, 1980). Social inadequacy has been an integral part of the definition of retardation since the condition was first recognized and described in the literature (Sellin, 1979).

The historial devaluation and segregation of persons with retardation has contributed significantly to the social deprivation associated with this population (Mercer, 1970). As a reaction to the lack of opportunities for these persons, the principle of normalization was conceived approximately 20 years ago in Denmark (Wolfensberger, 1980) and began to affect all services for the handicapped. Normalization, as defined by Wolfensberger (1980) involves "Utilization of means which are as culturally normative as possible in order to establish, enable or support behavior, appearances and interpretation which are as culturally normative as possible" (p. 80).

The principle of normalization has served as a motivation for providing normative occupations for handicapped people. Neufeldt (1978) made the following observation concerning employment and the normalization principle: "The power of this principle is that it suggests that, if one wished to enable retarded people to be more acceptable for what they can contribute, it will be important that like work opportunities ought to be available

..and that considerable effort should be devoted to obtaining work that has a `societally valued' characteristic to it for any given individual" (p. 46).

In addition to the normalization principle calling for integrated vocational settings, an end to discrimination is mandated from the legal perspective. Laws have been passed that demand the termination of discrimination and that encourage affirmative action. Notable among the laws is Section 504 of the Rehabilitation Act of 1973 which prohibits exclusion of handicapped individuals from any program or activity receiving federal financial assistance (Days, 1980).

As a result of legal mandates as well as normalization and other associated factors, employment opportunities for people with retardation are being expanded today (Mattson, 1980). With the expanson into normal competitive jobs, new and increased social demands are placed upon the retarded worker. Lack of appropriate social skills, such as the ability to accept and profit from constructive criticism, leads to a substantial number of job losses (Stacy, Doleys & Malcolm, 1979).

Rationale of the Study

As vocational opportunities increase for persons with retardation, specifically opportunities in competitive

industry, increased social competencies are demanded of the mentally retarded worker. (Sowers, Thompson & Connis, 1979; Zisfein & Rosen, 1973). Vocational placement in normative settings necessitates social interaction and competencies that were not called for in a sheltered work environment (Bates, 1980; Brody & Stoneman, 1977, Ehlers, Prothero & Langne, 1982).

Given that the worker possesses adequate work performance skills to execute the job, the majority of job failures for this population are related to the attitude of the worker to the employer, co-workers and work situation (Moss, 1979; Cheny & Foss, 1984; Foss & Peterson, 1981; Gill, Gill, Wehman & Goodall, 1984).

A need exists for programs designed to teach social skills related to success in the vocational setting to persons with mental retardation. In the words of Schloss (1979), "There exists a dearth of vocationally related social skills training investigations conducted with special needs youth. Therein lies a call for research. Future investigations should extend the social skills training literature to vocational rehabilitation populations and settings" (p. 145).

Organization of Subsequent Chapters

The content of Chapter I included the purpose of the

study and associated questions of interest, the background and rationale of the study and organization of subsequent chapters. In Chapter II, the research and literature related to the study are reviewed. A description of the methodology including the research hypotheses, the sample, the intervention, the design, generalization, setting and instrumentation is contained in Chapter III. In Chapter IV, the data is presented and analyzed. In Chapter V, a summary of the study, discussion of results, and appropriate conclusions and recommendations for future research are presented.

C H A P T E R I I

LITERATURE REVIEW

Introduction

Implied in the preparation of a social skills training program is the message that the population to be addressed possesses significant incompetencies in interpersonal relationships. Such incompetency has long been associated with persons diagnosed as mentally retarded (Sellin, 1974). Researchers disagree as to the underlying reasons for the assigned incompetency. Mercer (1970) argues from a sociological perspective that the deficit is a result of denied social opportunities and lowered expectancies generally associated with retardation. Educators such as Baumeister (1967) note the role that inadquate educational opportunities or interventions have played in failing to develop the potential of this population. Rehabilitation specialists such as Gold (1980) argue that accepted educational methods have not challenged this population to develop social or work performance capabilities. Wolfensberger (1980) calls for normalized settings to enhance the integrative process.

Regardless of the perspective from which the social incompetency is viewed and regardless of the assigned

responsibility for the deficit, the interpersonal skill difference exists and causes job losses for the retarded individual (Cull & Hardy, 1973; Hadley, 1982; Krantz, 1971; Wehman, 1982; White & Wimmer, 1973).

Vocational rehabilitation personnel recognize that the most normative setting for mentally retarded workers is competitive industry (Stacy, Doleys & Malcolm, 1979; Sowers, Thompson & Connis, 1979; Zisfein & Rosen, 1979). However, if the worker is going to succeed in an unsheltered work setting, several issues need to be addressed. Primary among these issues is the problem of social deficiencies. The worker will be facing new challenges in interpersonal skills as (s)he performs with co-workers and supervisors on the job (Bates, 1980; Brody & Stoneman, 1977; Ehlers, Prothero & Langone, 1982). The first question to be researched is "What interpersonal skills deficiencies are causing job losses for this population?" The second issue to be discussed involves training programs that have been implemented and their effectiveness.

Social Skills Deficits in the Work Setting

Delineating the interpersonal skill deficits that lead to job failure is not a simple matter. Given the complexity of the relationship between predictors and criteria when addressing the adjustment of mentally retarded workers, neat

formulas for predicting success or failure are impossible. Personal social and vocational adjustment are the product of numerous interacting variables (Cobb, 1969; Cobb, 1972).

Vocational rehabilitation research indicates that the majority of people with mild retardation and many with moderate retardation possess or can be trained to acquire work performance skills to be employed in competitive industry (Dinger, 1961; Hasazi, Gordon & Roe, 1985; Hill, Hill, Wehman & Goodall, 1985; Kennedy, 1960; Stabler, 1974). The same body of research also indicates that many of this population lose their jobs because of social inadequacies. The Rehabilitation Research and Training Center, Virginia Commonwealth University is engaged in ongoing research and placement of mentally retarded adults in competitive jobs. Recent research of Hill, Hill, Wehman and Goodall (1984), V.C.U., indicated that approximately 50% of 107 job losses out of 165 placements were due to "internal client related causes" such as behavior deficits (Appendix A, "Reasons for Job Separation of Previously Employed Mentally Retarded Persons").

What are these behavior deficits that cause the mentally retarded worker to be unable to maintain continuous and sustained employment? Workers in the field of rehabilitation have investigated job tenure of retarded workers and attempted to analyze the factors that

distinguish between successful and unsuccessful vocational adjustment.

Peckham (1951) conducted an investigation with the Michigan Program of Vocational Rehabilitation in order to identify prominent client problems. A representative sample of 80 mentally retarded workers was selected. Prominent job adjustment problems of 10 different types were found. The number one problem involved lack of acceptance by fellow employees, demonstrated by behaviors such as teasing. The second in priority was lack of social and vocational sophistication such as lack of punctuality and general deportment.

Kolstoe (1961) researched the characteristics which distinguished between employed and not-employed mentally retarded males between 16-40 years of age with IQ's ranging from 51-95 (median of 76). According to data from the employer's rating scale, the characteristics which distinguished between employed and unemployed in these 82 men centered about the concepts of "initiative, responsibility".

Similarly, research of Rosen and Hoffman (1974) was directed toward isolating those behaviors that would distinguish between successful and unsuccessful workers. The researchers identified the following six clusters of inappropriate behaviors:

1. Overfriendliness, such as "greets and approaches acquaintances in an overly friendly manner".
2. Bizarre speech and actions, such as "constantly stares at people" or "devises untrue or unlikely stories".
3. Socially awkward behavior, such as "acts without regard to social rules and convention".
4. Poor personal appearance.
5. Belligerence, such as "expresses anger in verbally inappropriate way", or "acts in uncooperative, hostile manner".
6. Childishness, such as "displays an inability to accept criticism or tolerate frustration", "exhibits dependency and helplessness","exhibits immature peer relationships", "unable to follow rules and schedules" (p. 181).

During the study Rosen and Hoffman worked with 74 residential students (43 males and 31 females) at a rehabilitation center. The students were divided equally into three groups according to characteristics as follows: Adjustment Training (Group 1), the lowest functioning group with mean IQ of 34 and age of 33.9; Workshop (Group 2) with mean IQ of 53.2 and age 36; and Trade Training (Group 3), with mean IQ of 78.7 and age of 21.8, comprised those with the highest level of functioning.

Analysis within group variance revealed significant differences between inappropriate behavior categories. Groups 1 and 2 peaked at category 2 (bizarre actions) and category 6 (childishness). Group 3 showed less elevation of inappropriate behavior with the highest points being category 6 (childishness) and category 3 (socially awkward behavior). Category 6 indicated behaviors such as an inability to accept criticism or tolerate frustration and an inability to follow rules or schedules. The fact that category 6 was a peak point for each group indicates the significance of these behaviors.

Levine and Eizey (1968) reported a factor analysis of the San Francisco Vocational Competency Scale based on the supervisor ratings of a random sample of 344 males and 218 females with IQ's ranging from 20-75. The clients were employed in 45 workshops scattered across the United States. Five factors determined to be highly related to vocational competency were determined by the ratings. Factor II included two aspects of flexibility; one dealing with cognitive flexibility and the other dealing with interpersonal flexibility. Cognitive flexibility referred to behavior such as transferring skills from one task to another, correcting erors, need to be reoriented to a previously learned task, and response to changes in routine. Interpersonal flexibility related to the workers'

reaction to frustration, response to movement or noise, accepting suggestions, reaction to supervision and returning from breaks. Levine and Eizey state that according to other research, it appears that the factor of cognitive and interpersonal flexibility would be helpful for decision making in the work setting where judgement or decision making is required.

Factor IV included the factors of initiative and dependability. The items with the highest loading with this factor were seeking help, offering assistance, requesting materials and reporting problems. The initiative-dependability factor conformed to the type of individual who is likely to be a successful worker and demand limited supervision time.

Goodall, Wehman and Cleveland (1982) attempted to analyze barriers to the successful employment of the retarded adult in normalized vocational settings. These researchers cite several "idea barriers" which according to the President's Committee on Employment of the Handicapped are impediments to the placement process. In addition to negative public reaction to retarded people, the significant factors were "nonacceptance by fellow workers" and "the belief that mentally retarded people are more prone to job related injuries".

Foss and Peterson (1981) researched the social-

interpersonal behaviors most relevant to job tenure for the adult with retardation. A questionaire regarding the relevant social behaviors was responded to by 64 job placement personnel in sheltered workshops in 11 western states. Three of the four areas identified as most relevant to job tenure were directly related to supervisor-worker relations. The three statements responded to were in the areas of (1) "Following supervisor instructions", (2) "Responding appropriately to supervisor criticism or correction", and (3) "Working independently of direct supervision". From this research it is clear that without satisfactory worker-supervisor relationship, job tenure possibilities are significantly reduced.

Moss (1979) identified three primary reasons for 51% job failure rate for the 63 moderately retarded trainees at a University of Washington training center. The majority of job failures were related to job performance; however, the second cause of failure was related to the attitude of the worker relative to the employer, co-workers and work situation; the final cause was an inability to follow instructions and consistently complete the task.

Cheney and Foss (1984) analyzed vocational settings in order to delineate the nature and frequency of social/-interpersonal problems of retarded workers. These researchers recognized that social incompetency presented a

major obstacle to maintaining employment. Their study attempted to analyze the problematic situations and thereby derive socially valid content for assessment and training. Through a networking of information from 18 workshop production supervisors, 18 mentally retarded workers and 18 competitive employers, 355 problematic situations were identified. The situations were categorized into social behavior domains relevant to job tenure for mentally retarded adults as identified by Foss and Peterson (1981). The findings are presented in Table 1:

Table 1: SOCIAL BEHAVIOR DOMAINS RELEVANT TO JOB TENURE FOR THE ADULT WITH RETARDATION.

1.	Problems with supervisor	
	a. Accepting Criticism or Correction	71
	b. Requesting Assistance	30
	c. Following Instructions	19
	d. Accepting a New Supervisor	12
	Total	132
2.	Problems Among Co-Workers	
	a. About Work Tasks	44
	b. Caused by Teasing or Provoking	30
	c. About Personal Matters	16
		90
3.	Disruptive Social Behavior	
	a. Excessive Talking and Laughing	38
	b. Teasing and Provoking	30
	c. Inappropriate Conversation	15
	d. Bizarre	14
	e. Miscellaneous	12
		109
4.	Distracted by Others	24
	TOTAL	355

As indicated in Table 1, problems reported between

supervisors and workers contained four of the major areas of concern. Problems with co-workers was the area exhibiting the second most numerous concerns. This study by Cheny and Foss is a positive contribution to the rehabilitation literature as data is provided from the perspective of the employer, the employee and the supervisor as to social problem areas in the workshop.

Each of the studies presented in this section of Chapter II has analyzed social skills deficits associated with job failure. The problems center about worker-supervisor relationships as well as problems among co-workers and problems within the worker.

The findings of Foss and Peterson (1981) are representative of studies in the field as data was collected from employers in competitive industry as well as employees and supervisors in sheltered workshop. Foss and Peterson found that 132 out of 355 (37%) of all of the social problems relevant to job tenure for the adult with retardation were directly related to problems with the supervisor; 90 out of 355 (25%) were related to problems among co-workers; 109 out of 355 (31%) were related to behavior problems emanating from the worker.

Social Skills Training and Vocational Success

Numerous studies since 1919 have indicated that the

vocationally successful people, in addition to possessing the necessary work performance skills, had the benefit of "social support" (Dinger, 1961; Fernald, 1919; Foley, 1929; Kennedy, 1948 & 1960; Stanfield, 1973 & Stabler, 1974). The aspect of social support that will be considered in this study is that of training the mentally retarded adult in social competency. Researchers in the field of education as well as vocational rehabilitation repeatedly call for training in social competency related to the work site (Eagle, 1967; Kennedy, 1960; Kolstoe, 1961; Neuhaus, 1967; Schloss & Schloss, 1982; Sparks and Younie, 1969). This section of Chapter II will present an analysis of social skills programs developed to ameliorate social deficits in the work setting for mentally retarded adults.

Packaged Instructional Programs. Bates (1980) conducted a training program designed to develop interpersonal skills with 16 mildly to moderately retarded adults. Although the "packaged" technique was primarily utilized, problem solving was incorporated into the program in the assessment and with the inclusion of the "what, how and when" (p. 237) of interpersonal behavior. Bates used an assessment tool based on the behavioral analytic method for problem solving developed by Goldfried and D'Zurilla (1969) which included the following procedural steps: (1) situational analysis, (2) response enumeration, and (3) response evaluation. The

packaged technique used included modeling, behavioral rehearsal, verbal instruction, feedback, incentives and homework. Bates worked with the 16 adults for 11 one hour sessions addressing the following skills: (1) Introductions and Small Talk, (2) Asking for Help, (3) Differing with Others, and (4) Handling Criticism. The skills addressed were developed by individuals directly involved with the students such as the vocational directors and houseparents. From the 16 people, 8 were randomly assigned to experimental and control groups of eight each. The experimental group was subdivided into two groups of four each. The mean IQ of the control group was 59; the mean IQ was 50 for the experimental group.

The modeling component of the training consisted of a modeled demonstration of an effective interpersonal response. After the leader had modeled and comments were received, each person practiced the response. Following the practice, each member rehearsed the situation two to three times in sucession. Verbal instruction (coaching) was provided by a leader during the behavior rehearsal for the first two weeks. During the last two weeks, each resident assisted in coaching a fellow resident with situations previously practiced.

Feedback was provided in the form of cue cards held by the members. The cards depicted effective response

behaviors such as appropriate content, eye contact, appropriate voice volume, effective use of gestures, fluency of speech and appropriate facial gestures. In addition to referring to the cue cards if needed for feedback, the residents received specific positive comments from the group leaders.

Incentives of 10 cents for attendance and 10 cents for homework completion was also provided. Social praise was always paired with the monetary incentive. The homework assignments required each resident to practice the skill with the houseparents.

The training resulted in a significant improvement in all four behaviors in the two experimental groups and no change in the control group as demonstrated in weekly assessments for four weeks and a post test during the fifth week. Generalizability to a natural environment (grocery store) was not significantly evidenced. Overall, this program was graphic in promoting behavior changes in a laboratory setting using several techniques. The major weakness was the limited assessment of generalizability (one trip to the grocery store involving incidents calling for the learned behaviors) and no long term follow-up. While the behaviors addressed in this program were not exclusively work-shop oriented, the skills were originally identified and selected as target behaviors by significant people in

the lives of the clients such as the vocational staff. The study would have been strengthened and rendered more internally consistent if generalization to the work setting had been assessed.

Matson and Senatore (1981) further extended the therapy literature by comparing behavior therapy with psychotherapy for treating social skill deficits. Thirty-five adults with mild to moderate retardation were randomly assigned to one of three experimental groups: no treatment, traditional psychotherapy and social skills training. The two latter groups received two 1-hour training sessions per week for five weeks. The target goals were decreasing complaining statements and increasing positive statements. Training in the psychotherapy group was oriented to the development of group cohesion, expression of feelings, empathy, respect and trust. Training in the social skills group focused on those same issues during discussion but differed in procedure by adding directed teaching of the three target behaviors. Instructional techniques included modeling, role playing, verbal reinforcement, verbal feedback and verbal instruction. It is interesting to note that while the social skills group did not directly include problem solving techniques, concepts such as group cohesiveness and empathy which are suggestive of problem solving techniques were included. The results of this experiment indicated the

effectiveness of directed social skills training. The control group did not reach significance in any of the analyses; the psychotherapy group reached significance in role play measure only and maintenance of the skill was not indicated at the 3 month follow-up. A t-test revealed significance for the social skills group on the role playing assessment, the group meeting assessment and the observation assessment, but failed to reach significance on the survey assessment.

Although this study does not supply background data on the trainees which would seem important as social skills are being assessed, it does yield important data as to the efficacy of social skills training. The behaviors addressed in this study were relevant to the work setting although the assessment was not extended to the vocational environment.

Turner, Hersen and Bellack (1978) implemented a social skills training program with a severely behaviorally disordered, mildly retarded young adult in a hospital setting. The primary technique involved the use of modeling as a stimuli to teach behaviors; other instructional procedures included behavior rehearsal, instruction, feedback and reinforcement. The skills addressed in the program included eye contact, number of words spoken, response latency, speech loudness, intonation, overall assertiveness, number of smiles and number of physical

gestures. The program was run for a six month period with "booster" sessions following. The program consisted of eight scenes from the Behavioral Assertiveness Test (Eisler, Hersen, Miller and Blanchard, 1975). The assessment for generalization involved having the client participate in simulated untrained scenes which tapped the same content as the trained scenes. The follow-up assessment after six months revealed that as more behaviors were treated, overall assertiveness showed a steady improvement. The effects of training included rapid improvement in each of the target behaviors. Generalization (untrained scenes) showed essentially the same gains as the training scenes. Following hospitalization, the young man lived at a residential facility where anecdotal information from personnel suggest the gains had been maintained. A number of limitations are apparent in this study. The results are not reported completely in areas such as number of hours spent in training and description of the procedures; data on the extension of the skills to the work environment is not included; however, the overall results were encouraging as the program effected positive changes in a young man whose behavior disorders were of an extremely severe and chronic nature.

The programs reviewed thus far have not attempted to assess generalization of the trained social skills to the

natural setting work environment. However, Foxx, Martin, McMorrow and Mennemier (1984) did attempt such an analysis as they trained skills needed by the retarded individual in order to function effectively with supervisors and co-workers. The training consisted of a group of table games in which the client became either an "actor" or "reactor" in a workshop situation involving compliments, social interactions, criticism, social confrontation and questions/answers.

An indepth analysis of generalization was accomplished in two ways: (1) a simulation was conducted prior to and following training; (2) unobtrusive measures of the residents' social interaction behaviors and productivity in the institution's workshop were taken throughout the study.

Group One consisted of three males, average age 24 and IQ 60. Group Two consisted of one male and two females, average age 34 and IQ 44.0. A multiple baseline design across groups was used to evaluate training effects in the game settings. Group One responded correctly to an average of 43.0% of the game situations during baseline and 76.8% during training. Group Two averaged 38.8% correct during baseline and 71.7% during training. At the end of the 12 training games, both groups were responding near 90% correct.

Generalization: Group One averaged 33.4% correct on

preassessment simulation and 63.2% correct on postassessment. Group Two averaged 30.5% correct and 62.2% respectively. The players' workshop behavior provided a systematic assessment of generalization as social behaviors and productivity were measured daily throughout the program. Follow-up was accomplished by recording in the workshop once per week for one month after all training was completed.

The results of the game training were encouraging as all of the players' social responses to vocationally relevant situation increased. However, the main interest of the study concerned generalization of the skills to the work setting. The simulated work setting evaluation showed gains ranging from 13.3% to 52.9%. The generalization to the workshop was equivocal, however, as a great deal of within- and between- resident variability and other factors occurred to limit this measure. Although the workshop results were disappointing, useful information about the nature of group social behaviors that should be considered in future programs was revealed. This study is important in that generalization to the natural setting received a primary consideration during the entire study. Useful information and encouragement for future research in generalization evaluation was provided.

Problem-Solving Training Program. Ostby (1982) conducted a

training program with the purpose of experimentally determining the effects of a problem-solving approach to social skills training on specific social behaviors and social problem-solving skills of mildly and moderately retarded persons in a work setting. Sixteen mildly and moderately retarded adults were randomly selected from three sheltered workshop facilities to comprise a sample population of 48 adults. The subjects were randomly assigned to a treatment or control group. The individuals in the control group received 14 social problem-solving (SPS) for seven weeks (two 1-hour session per week). A videotaped vignette depicting a social problem relevant to the work setting and based on the Butler and Ayer (1970) model was presented to the trainees. The training emphasized conceptualization of the problem, identification of relevant social cues, gneration of possible solutions and selecting a positive response. The trainee then participated in role playing a situation similar to the vignette and implementing the solution(s) chosen by the group.

Two measurement procedures were utilized: (1) pre and post behavioral ratings via the Observtional Emotional Inventory (OEI) and (2) post-test administration of the Social Problem-Solving Assessment Technique (SPS-Video).

Significant mean differences were found between

treatment and control groups on total subscales scores of the SPS-Video assessment. Significant differences were not found in terms of the behavior ratings; thus evidence that training in social problem solving impacts on behavior within a workshop environment was not found. Ostby tenatively concluded that training is effective in changing deficits in social competency for adults with retardation as evidenced by significant differences between control and experimental groups on the Social Problem Solving-Video Assessment. Ostby calls for more research in this area before conclusive statements may be made. According to Ostby, research is needed in the areas of emphasis, length and intensity of training as well as in the area of measurement of social problem-solving and social behavior. This is an important study due to the fact that empirical data is provided indicating the effectiveness of problem solving strategies in training social skills for retarded adults.

Comparative Studies. The effectiveness of another "package" approach program was demonstrated by Senatore, Matson and Kazdin (1982). The techniques involved role playing, modeling, instruction, active rehearsal, performance feedback and reinforcement. The study involved 16 males and 19 females with IQ's ranging from borderline to severe retardation (2 borderline, 15 mildly, 17 moderately and 1

severly retarded persons). The purpose of the study was to assess behavior change (increased verbal responses, appropriate responses) resulting from the treatment and to assess the impact of active rehearsal in the training. The "package" treatment involved role playing, modeling, instructions. Performance feedback and reinforcement and was used to train 13 people. The "package" plus active rehearsal was used to train 12 adults. No treatment was given to a control group of 10. Treatment sessions were held twice weekly (one hour each) over a 5 week period. Assessment consisted of a role play performance of social skills, an interview and generalization to a natural setting was evaluated by the client's performance at a party. A follow up assessment was made in a 2 week span 6 months after the post tests.

Treatment effects were evaluated at post test. A significant effect of treatment was found at posttest for role play. For the role-play assessment, 41% of the variance was explained by treatment conditions. A significant effect of treatment conditions obtained as posttest for the interview measures was found. For the interview measures, 77% of the variance was explained by treatment. The sources of overall differences among the treatments were isolated. The social skills training group that included active rehearsal was significantly higher in

social skills than the other two conditions. Also, it was found that the standard social skills training group was significantly more effective than the no-treatment control group. The group participating in the standard skills training and the group with the added active rehearsal component improved significantly from pre to post, with the active rehearsal group showing the most improvement. At the completion of treatment, a party was held and social appropriateness of conversational responses was evaluated. A comparison of groups indicated the active rehearsal group was rated significantly higher in appropriate responding than the other groups. A role play evaluation follow-up occurred 6 months after training. Social skills training with active rehearsal maintained a significantly higher rating than the other two conditions.

This study is important because not only was the effectiveness of social skills training presented, but also the importance of one component, active rehearsal, was demonstrated. The 6 month follow-up indicated that the skills were maintained over a period of time. However, several weaknesses were evident in the study. The only natural setting evaluation was carried out at a party; the naturalness of this setting is debatable as the trainees were asked questions individually by undergraduate students and rated as to the social appropriateness of the answers.

A setting which is part of their everyday lifestyle would have been more appropriate. The results of the treatment were not described in terms of the pyschometric information given initially. Another serious limitation of the study was that no description of definition of the target behavior of "appropriate response" was given. The researchers note the relatively narrow range of social behaviors addressed in the study and urge caution because of this fact. The need for more comparative studies is noted. These limitations place parameters on the conclusions which may be drawn, but the results suggest that social skills training incorporating active rehearsal enhance treatment effects with mildly to moderately mentally retarded adults.

A limited number of other studies have been done which compare training procedures to teach social skills to retarded adults. Gibson, Lawrence and Nelson (1976) compared the effectiveness of training that involved three different methods: (1) modeling, (2) instructions and feedback, and (3) modeling, instructions and feedback. Three developmentally disabled adults (Subject D.A. with IQ of 83, Subject J.H. with IQ of 75 and Subject B.T. with IQ of 52) were taught three responses: verbalization, recreation and cooperation. One stated purpose of the study was to compare the relative efficacy of each method and the second purpose was to evaluate the use of nonretarded adult

models to teach peer-interaction skills via videotape to retarded adults. A multiple-baseline design was used with three subjects, three target responses and three treatment procedures. Four baseline-observation sessions were followed by nine 15 minute training sessions given each subject; in each session one target response was taught by one of the three procedures. The target responses are behaviorally defined in the study (for present purposes, the definition of the response most relevant to the work setting will be given). The response of cooperation is defined as skills such as washing clothes, sweeping or mopping the floor or getting the food trays when the subject was directly interacting with one or more of his peers. An analysis of the data indicated that training produced a significant increase in the level of responding regardless of which technique was used. Regardless of the target response, the treatment conditions produced differing increases in responses from baseline to probe. Condition C (modeling, instructions and feedback) produced significantly greater increases than Condition B (instructions and feedback). Both C and B produced significantly greater increases than Condition A (modeling). The study concluded that all three training procedures were effective in improving the target behavior; however, the most effective procedure was the combined methods of modeling, instructions

and feedback. This study is important in that not only was the efficacy of social skills training demonstrated, but the increased behavior changes induced by using a combination of techniques was clearly indicated. The restricted sampling (three adults and three behaviors) places limitations on the generalizability of the findings. The data collecting observations were limited to 30 minute probes in the living room following each 15 minute training session. It would have been desirable to have follow-up measurements over a time span to assess the long range generalizability more accurately. In spite of limitations in this study, the fact that behaviors were positively changed and effective treatment techniques for training social skills in this population were identified is of significance.

The above studies present convincing data as to the effectiveness of directed training to enhance the development of social skills related to vocational success for the adult with retardation. A chart comparing the studies cited in this section of the proposal has been prepared by the researcher (see Appendix B).

Training Techniques and Strategies

Training techniques that have been commonly used in social skills programs with mentally retarded adults will be discussed in this section.

Social skills training programs have traditionally utilized various combinations, or "packaged" instructional procedures that may be grouped in the following manner:

1. initial descriptive procedures, such as verbal instruction;
2. modeling procedures, such as use of live models, video tapes, audio tapes, films or pictoral models;
3. rehearsal procedures, such as role playing;
4. feedback which generally involves information on performance during rehearsal;
5. positive reinforcement primarily involving the use of social reinforcement (Schumaker & Hazen, 1984).

Role playing has also been used as an assessment procedure (Turner, Hersen & Bellack, 1978). Self-management techniques such as self monitoring have been used less frequently than the above techniques, but are being investigated by a number of researchers as the technique is being demonstrated to be useful for individuals with retardation (Zohn and Bornstein, 1980).

The packaging of techniques has proven successful with a variety of populations such as psychiatric patients (Frederiksen, Jenkins, Foy & Eisler, 1976; Goldsmith & McFall, 1975), juvenile delinquents (Ollendick & Hersen, 1979; Spence & Marzillier, 1978) and children with

retardation (Cooke & Apolloni, 1976; Nelson, Giobson & Cutting, 1973).

Bernstein (1981) notes the incompleteness of literature that describes the effectiveness of techniques for teaching social skills to retarded adults. According to Bernstein, the most effective procedures for teaching other skills to retarded persons have come from behavioral research and therefore, the expectation is that effective means of teaching interpersonal skills will come from the same source. Bernstein further states that the demonstrated effectiveness of using combined techniques to work with other populations would seem to indicate the usefulness of employing a similar procedure with retarded persons. Matson and Senatore (1981) did establish the effectiveness of a social skills training program using a "packaged" approach as opposed to a traditional psychotherapy program designed to teach social skills to retarded adults. Other researchers have successfully utilized the packaged technique approach for teaching social skills to retarded adults, and several studies have analyzed the saliency of one particular component such as behavior rehearsal.

Initial Descriptive Procedures. Initial descriptive procedures are generally oral techniques involving teacher descriptions of how to perform a skill appropriately. Schumaker and Hazen (1984) include the following descriptive

components, one or more of which may be utilized:

1. a definition of the skill;
2. rationale (motivational reasons) for using the skill;
3. general characteristics of situations as well as examples of specific situations where a skill can be used;
4. descriptions of the behavioral steps involved in using the skill;
5. a presentation of the societal rules regulating use of the skill (Hazel, Schumaker & Sheldon, in press).

Behavioral Rehearsal and Feedback. Behavioral rehearsal and feedback are typically grouped together in social skills programs (Schumaker & Hazel, 1984). Miller & Schloss (1982) describe behavior rehearsal as "the practicing of low-frequency behaviors under conditions that are naturally associated with the desired behaviors" (p. 255). Rehearsal procedures provide opportunity for the behavior to occur with sufficient frequency so that reinforcement may occur. The learner is assisted in identifying environmental conditions for which the behavior is appropriate or expected, as well as natural consequences of the behavior. Miller and Schloss summarize the purposes of behavioral rehearsal as teaching adaptive responses, identifying natural cues expected to prompt the adaptive response and

identifying the consquences of the adaptive response. Rehearsal may involve verbal rehearsal of the skill steps to ensure that the individual can self-instruct and also structured practice such as role-playing when the learner attempts to perform the skill. Following either technique, the trainee receives feedback on performance from the instructor or other learners. Some feed-back procedures involve verbal combined with video-taped replays of the performance. A mastery criterion requiring a specified performance level may be integrated into the role-playing procedure thus providing an assessment tool. Miller and Schloss suggest the following sequence for behavioral rehearsal:

1. State the purpose of the behavior rehearsal.
2. Elicit a statement from the student identifying events that may provoke an inappropriate response.
3. Assist the student in evaluating response in reference to the following outcomes: its effect- iveness in reducing agitating behavior of others; its influence on personal goals; its influence on the work behavior of others.
4. Assist the student in identifying alternate behaviors that are socially skillful.
5. Role play a potentially provoking situation with the

student exhibiting social skillful behavior.

6. Assist ... in evaluating the appropriate response in reference to the outcomes as stated in (3).
7. Guide the student in rehearsing the socially skillful behavior under varying conditions. Encourage the individual to verbally label the positive features of the newly acquired behavior. Socially reinforce the student for demonstrating adaptive responses.
8. Elicit a statement from the student that indicates intent to utilize socially skillful behaviors in response to provocations. (p. 257)

Positive Reinforcement. Positive reinforcement is typically included in behavioral oriented social skills programs. Social reinforcement is generally the preferred method for use with adults and refers to the use of interpersonal interactions to increase the likelihood that a behavior will occur (Miller & Schloss, 1982). A positive social reinforcement such as a smile received by the trainee following a desirable behavior would increase the occurence of that particular behavior. On the other hand, a negative verbal statement received by the trainee following an undesirable behavior would increase the chances that behavior avoiding that particular behavior would occur in the future. An event cannot be considered as social

reinforcement until it has been demonstrated to increase the frequency of the behavior. Among guidelines offered by Miller and Schloss (1982) for the use of social reinforcement are the following:

1. Label both process (e.g., "working fast") and product (e.g., "completed a bunch of units") behaviors.
2. Use the individual's name frequently (e.g. "I really like it when you work that fast, John. You sure have completed lot of assemblies").
3. Tell the individual the behaviors that are likely to result in social reinforcement (e.g., "I like to talk to you when you work fast").
4. Once the target behaviors reach an acceptable level, gradually reduce the number of socially reinforcing interactions. This will increase the likelihood that the behavior change will maintain in the absence of high rates of social reinforcement. (Miller & Schloss, 1982, p. 245).

Modeling. Modeling has been demonstrated to be one of several techniques effective for teaching social skills to mentally retarded adults. Turner, Hersen and Bellack (1978) describe modeling as a "procedure known to be particularly effective in individuals with severe behavioral deficits" (p. 258) and note the usefulness of this technique to

facilitate more appropriate work behavior.

Bandura (1965) describes modeling as the increasing or decreasing of an individual's behavior that results from having seen another person engage in a behavior and receive certain consequences for that behavior. Modeling involves the arrangement of instructional conditions to enable an individual to observe another person and acquire new response patterns, or in the words of Flanders (1968): "Observer's behavior becomes more similar to the observed, or alleged, behavior of Model" (p. 316). Bruch (1973) describes modeling as a way of inducing behavior change as a consequence of "learning by example" (p. 1). Shumaker and Hazen (1984) refer to modeling as a demonstration presenting the learner with an accurate sequential representation of the behavioral steps involved in the skill.

Dunn (1974) notes that this technique has been used effectively to facilitate more appropriate work behavior and suggests interaction with supervisors and co-workers as a behavior that responds favorable to instruction via modeling. Miller and Schloss (1982) have identified three purposes for which modeling procedures may be effectively used: (1) to teach new responses such as how to ask a question, (2) to increase the strength of a previously learned skill such as learning to ask a question without undue hesitation, and (3) to inhibit a response pattern,

such as a worker may discontinue profanity after seeing his employer fire a co-worker for swearing.

Miller and Schloss (1982) offer the following guidelines for promoting observational learning with handicapped individuals: (1) specify behaviors expected to be influenced through modeling, (2) present high status models engaged in the behaviors, (3) specify and deliver reinforcement contingent on the behaviors, (4) verbally label the behaviors as they occur, using the trainee's name, (5) vary the models and settings to enhance generalization.

Self-monitoring. Mickler (1984) suggests the use of self management training for the "educable mentally retarded" individual. Self monitoring is viewed as a component of self management. Common to these strategies is the construct that self-awareness plays a vital role in learning. The process of self monitoring requires the individual to internally assess behavior. This strategy has been shown to be effective with a variety of populations including normal children (O'Leary and Dubey, 1979), emotionally-behaviorally disturbed (Francescani, 1982), and hyperactive (Bell, 1980).

A limited number of studies demonstrating the efficacy of self monitoring training with mentally retarded persons has been done. Of interest to the present study are those investigations of the usefulness of this approach with

mentally retarded adults in a vocational setting. Matson, Marchetti and Adkins (1980) found that subjects trained in self monitoring were able to increase the number of correctly completed steps of a self-help task. Connis (1979) found that workers were able to initiate new tasks without directions after learning self-recording skills. Zohn and Bornstein (1980) found that adults increased work production and demonstrated positive changes in collateral behavior following self monitoring training.

Davis, Bates and Cuvo (1983) reported the efficacy of providing graphic feedback to a mentally retarded woman. The woman was able to increase her speed in stripping breakfast trays from an unacceptable level to the rate required for competitive employment.

Self-monitoring techniques have been demonstrated to be effective in promoting the acquisition of skills with mentally retarded individuals. Although limited research has been done in this area, indications are that future programs will consider self-monitoring an important component of training (Connis, 1979).

The literature reviewed in Chapter II indicates the following:

1. Persons with retardation do lose jobs because of social incompetency in the work setting;

2. The incompetencies involve worker responses related to interactions with the supervisor and/or co-workers and inappropriate actions unique to the individual;
3. A limited number of training programs have been implemented with retarded persons addressing skills related to vocational adjustment skills;
4. The programs have utilized various combinations of behavioral techniques;
5. The training programs have been effective, to varying degrees, in facilitating the development of appropriate social behavior;
6. The effects of social skills training have not been demonstrated in the work setting.

Chapter III will describe the methodology followed in the study. Included will be the research hypotheses and a detailed description of the treatment, sample, setting, instruments and design of the study.

C H A P T E R I I I

METHODOLOGY

Introduction

Vocational opportunities are being expanded for persons with mental retardation. This expansion of opportunity into normalized work situations places new and increased social demands upon the retarded worker. In an effort to prevent job losses resulting from social deficits, programs have been implemented to teach appropriate social/vocational skills to retarded adults.

The research described in this study involved the implementation of a social/vocational training program designed to teach social skills relevant to the work environment to moderately and mildly retarded adults. The training program was developed by Foxx and McMorrow (1983) and described by Foxx, McMorrow and Mennemeier (1984), Teaching Social/Vocational Skills to Retarded Adults with a Modified Table Game: An Analysis of Generalization. The present study replicated portions of the Foxx et al. (1984) research as follows:

1. design and methodology;
2. training by use of table game "Stacking the Deck";
3. assessment of number of words used per response;

4. assessment of gains in number of correct responses during training;
5. assessment of generalization (with exceptions as noted below).

The present study differed from the Foxx study as follows:

1. The pre and post simulation evaluations as well as the baseline and training games were conducted in the natural environment rather than in a laboratory setting;
2. The pre and post simulation evaluations included the supervisor who is associated with the subjects in their natural work environment rather than an unknown confederate.
3. The ongoing video taped evaluation in the workshop for generalization included controlled interactions with the supervisor.

Hypotheses

The following specific hypotheses were addressed in this replication research study:

1. Specific social/vocational verbal responses related to the maintenance of employment for mildly and

moderately retarded workers will be improved after the completion of a 12 hour series of table game training sessions as measured by rater observation.

2. Specific social/vocational verbal responses of mildly and moderately retarded workers will generalize across conditions as measured by simulation role playing.
3. Specific social/vocational verbal responses of mildly and moderately workers will be improved in the natural environment (work setting) as a result of participation in a 12 hour series of table games designed to teach appropriate responses as measured by rater observation.
4. Words per response to the game card situations will increase as a result of participation in a 12 hour series of table games as measured by simulation role playing and game card responding.
5. Overall work adjustment will be improved by participation in a series of social/vocational training games as measured by supervisor rating on the Work Behavior Rating Scale.

Sample

Prior to the study, the researcher met with the Human Rights Committee associated with the subjects. The details of the study were explained, an Abstract of the Study

(Appendix C) and the Consent to Participation Form (Appendix D) were presented. Following the presentation, the researcher received a letter from the chairman of the Human Rights Committee, endorsing the research project (Appendix B).

Subjects were selected for the study in the following manner. The supervisor(s) of mildly and moderately retarded adults being trained for integrated work settings referred clients for social/vocational training on the basis of social deficiency and availability for training. The researcher described the six social skill areas to be addressed during the training program to the supervisor(s) in order to ensure that the adults recommended for the program exhibited deficits in the targeted areas. The following statement was made by the researcher to the supervisor: "I would like to work with six of your clients who would profit from training in social skills relevant to the workplace. Please recommend six workers whose primary diagnosis is mild or moderate retardation and who have definite deficits in social skills. The workers will be taught appropriate verbal responses to social situations that occur frequently in the work setting. We will conduct our training by using a table game called 'Stacking the Deck' which involves three players and myself. The six workers will be divided into two groups, Group 1 and Group

2. Each person will remain in his/her group throughout the training.

The six people that you refer for training will need to be verbal and capable of speaking in complete sentences. The program is designed for people with mild/moderate retardation and a history of social deficiency."

The program will involved the following time commitment from the workers:

Group 1: 4 hours (baseline games)
12 hours (training games)
4.5 hours (working on structured task)
(15 minutes per day for 18 days)

Group 2: 8 hours (baseline games)
12 hours (training games)
5.5 hours (working on structured task)
(15 minutes per day for 22 days)

The pre and post role play assessments will each involve 1/4 hour for each worker.

The six subjects were matched into two groups, Group 1 (n=3) or Group 2 (n=3) on the basis of scores from the individual evaluation "Simulation-General/Vocational Skills" (Appendix G) and supervisor recommendation. Group One consisted of two males and one female whose mean age was 34. Group Two consisted of three females whose mean age was 38. The overall age range was from 25 to 49. Group One IQ score mean was 50.6 (range 46 to 57). Group Two IQ score mean was 51 (range 50 to 52). Four of the subjects had been

institutionalized for a number of years and now live in group homes or sheltered apartments. Two of the subjects had always lived at home in a family situation, and continue to do so. All of the subjects work in a sheltered vocational setting involving training for placement in non-sheltered employment.

Intervention

The training procedure utilized the table game "Stacking the Deck" which incorporated a deck of specially designed training cards and the board game "Sorry". "Stacking the Deck" was developed in 1983 by Richard M. Foxx and Martin J. McMorrow. The game was designed to be fun and teach social skills considered to be highly related to employment success in competitive work settings (Foxx & McMorrow, 1983). Target skills involving a verbal action or reaction within six skills areas (social interaction, social confrontation, politeness, compliments, criticism, questions and answers) are taught using the board game. The program features response specific feedback, self-monitoring, individual reinforcers and individual performance criterion levels. The game cards are prearranged (stacked) in order for each player to receive all 48 situations once after playing four games. In this replication study as well as in the Foxx, McMorrow and Mennemeier (1984) study, subjects in Group One

(n=3) played one series of four games to form baseline. During baseline games, the facilitator (researcher) gave no feedback to subjects but modeled a correct response during her turn. Subjects in Group 2 (n=3) played two series of 4 games and received two exposures to each situation as they continued baseline while Group 1 began training.

During the training games, the facilitator assigned each player a seat to ensure the correct sequencing of cards. The researcher made the following opening statement to the players. "We are going to play a game very much like the game 'Sorry'. This game is supposed to teach you ways to talk to people at work. The game will be fun to play and also teach you important skills. You will draw a card, look to see how many spaces you can move and then hand the card to me. I will read the card, and you are to answer the question on the card. During the first set of games, you will always move your piece, no matter what your answer is. But, on the next set of games, you must answer the question correctly in order to move your piece. You must begin your answer in 10 seconds after I have read the card. You will learn new ways to answer and talk to people at work". The facilitator began the game by selecting a player to start. Each player took a card from the top of the deck and handed it to the facilitator to read. Following is an example of one of the cards and the corresponding answer: "you are

working on (name a relevant task), and your supervisor says, '(employee), you're not doing that right'. What should you do?" (Answer: Say, 'I thought I was doing it right. Would you show me the right way?') NOTE: If the player's response did not satisfy the scoring criteria, but represented an effective, appropriate or useful solution, such a novel response was scored correct, but the facilitatior provided a sample correct response for the other players. (Foxx & McMorrow, 1983). The game progressed as the player handed the card to the facilitator who read the card and gave the player 10 seconds to begin a response. After response, the facilitator checked the "Facilitator Scoring Guide" (Appendix H) to determine if the criteria for a correct response to that type of situation had been met. If the response was correct, the player was praised by the facilitator and allowed to move his/her piece. The player marked his/her "Player Score Card" (Appendix I) by putting an x through the appropriate number. The facilitator recorded the player's answer as correct on the "Facilitator Scoring Sheet" (Appendix J). (NOTE: The facilitator memorized the criteria and correct responses in order to avoid awkward delays when interacting with the players.)

If the subject's answer was incorrect (did not satisfy the criteria), the facilitator responded to the player: "Wait-- here's a better answer". The facilitator then

reread the card situation and modeled a sample correct answer from the corresponding "Facilitator Response Sheet" (Appendix K). The player was instructed not move his/her game piece. The facilitator recorded the player's answer as incorrect on the "Facilitator Scoring Sheet", (Appendix J). The facilitator always modeled a correct response from the "Facilitator Response Sheet" (Appendix K) during her turn.

Following baseline (four games for Group 1 and eight games for Group 2), training comprised of 12 games with response specific feedback, self-monitoring, individualized reinforcers and individualized performance criterion levels began on a daily basis except week ends for 12 days. The self-monitoring procedure involved each subject's daily graphing of correct responses and the recording by a checkmark if individual criterion (based on increased percentage of baseline) had been met. Following the series of 12 training games, rewards were given to each subject according to the number of check marks recorded. Following each day's training game, a snack was provided for each participant regardless of the number of correct responses given during that game.

Design

A variation of the basic time-series design, the multiple baseline across groups, was utilized in the

replication study. Campbell and Stanley (1966) classify this AB design as a type of quasi-experimental research. Controlled observations were taken repeatedly to form the A or baseline phase (four measurements for Group 1; eight measurements for Group 2). Following baseline, an intervention (social/vocational table game) was introduced to form the B phase of the study. Controlled observations were taken repeatedly during the B phase (12 measurements for Group 1; 12 measurements for Group 2). The two groups were exposed to the treatment at different times in order to form a staggered baseline.

Advantages of the design. Several advantages as well as disadvantages are inherent with the AB design (Campbell & Stanley, 1966; Kratochwill, 1978). First, an advantage offered by the multiple baseline across individuals (that is not true of traditional comparative group designs) is the opportunity to observe client change during treatment. The single subject design allows the researcher to follow the progress of the client and chart his/her improvement thus providing immediate data on the influence of treatment (Thoresen & Anton, 1974).

Another major advantage of the single case design is that each client serves as his/her own control by means of comparison with baseline behavior. This eliminates the need for a control group which is frequently an advantage when

working with a limited number of subjects. The fact that a control group is not needed can also be helpful on ethical grounds when the withholding of treatment is of concern to a group of people.

Another related advantage of the multiple baseline is that return to baseline or withholding of treatment is not necessary which can be a critical factor for ethical or medical concerns.

Disadvantages of the design. Campbell and Stanley (1966) note possible disadvantages or threats to internal validity of research which are termed as "plausible rival hypotheses" (p. 36). The most serious threat to the time series experiment is failure to control for history or changes in behavior that are a result of some simultaneous or concurrent event instead of the introduced treatment. According to Kratochwill (1978), the series of measurements inherent in the time series design, as well as the use of the multiple baseline across individuals that allows sequential introduction of interventions helps eliminate historical invalidating influences. However, as Campbell and Stanley (1966) point out, history can only effectively be controlled by "experimental isolation", and such procedures are usually impossible in the social sciences when dealing with human subjects. Therefore, the researcher's best control of the confounding effects of

history is a careful analysis of the conditions surrounding the intervention and making "qualified conclusions" (p. 13) that the intervention was responsible for the observed changes (Kratochwill, 1978). Kratochwill also points out that the planned intervention is less likely to suffer from historical confounding than the non-planned experiment. Interventions should be carefully planned so as to not coincide with extraneous events.

This replication study controlled for history by consulting with vocational and residential personnel as to any possible confounding events that may be occuring or will occur in the near future in the lives of the clients. Also, use of the time lagged multiple baseline across groups will offered some control over historical invalidating influences (Kratochill, 1978).

Campbell and Stanley (1966) list maturation as a possible confounding factor which is ruled out in the time series design due to the repeated time samplings yielding evidence of stability prior to intenvention. The possible effects of maturation will be controlled for in the present study by continuous sampling over a period of 6 weeks and by inter-subject replication.

Birnbrauer, Peterson and Solnick (1979) address the issue of reliable measurements and internal validity. If the investigator concludes that a change occurred on the

basis of observation without independent verification, s(he) is open to questions on procedure. Reliable recording of data is addressed in the present study by use of a trained independent rater whose data was correlated with that of the researcher.

Another threat to internal validity is the question of instrumentation. The researcher should avoid shifting measurement devices during treatment (Campbell and Stanley, 1966) and should use instruments of known reliability (Kazdin, 1982). Reliability of the pre and post simulations (Appendix G) to be used in the proposed study were determined by Foxx et al. (1984) as follows: The rating of the trained observer and a separately trained rater were calculated at 87.7% across the 6 individuals on the pretest simulation. The reliability on the post-test simulation was determined to be 97.2%. Reliability of the number of words used during the training games and the pre and post evaluations was determined by having 2 persons independently score verbatim transcripts which yielded 100% agreement. Videotaped interactions in the worksetting were scored by trained observers and yielded 91.3% reliability across sessions for Group 1 and 96.7% for Group 2.

The overall workshop adjustment of the subjects in this replication study was evaluated by the Work Behavior Rating Scale (Shushan, 1972) which reported interrater reliability

of .80, total scale. This instrument was developed as part of the investigation supported by Grant No. RD-1561-G from the Division of Research and Demonstrations, Social and Rehabilitation Service, Department of Health, Education and Welfare, Washington, D. C., 2020, "Coordination of Workshops for the Mentally Retarded in A Metropolitan and Suburban Area", Final Report by Robert D. Shushan, Principal Investigator and Project Director. The purposes of the instrument include the following: "to assess training progress and vocational development, identify specific behavioral and performance deficiencies requiring remedial action, and determine readiness for community job placement" (Shushan, 1972, p. 152).

External Validity. Although internal validity is primarily addressed in single subject design, the question of external validity or generalization is also relevant. Replication is the method used to evaluate generality in this design (Kazdin, 1982). The replication study described in this document will evaluate generality by a direct replication involving applying the same treatment across different subjects. Two groups will receive treatment; Group 1 will be considered experimental with Group 2 providing a direct replication. The replication provided by Group 2 will determine if the findings are restricted to the subjects included in the original demonstration (Kazdin, 1982).

The present study involves a replication of the Foxx et al. (1984) study. Therefore, in addition to the direct replication which in inherent in the design as described in the preceding paragraph, a second type of replication called systematic replication is also relevant. Systematic replication involves the replication of an original study with certain variation(s). Kazdin (1982) suggests limiting the number of variations in order that the researcher might be better able to isolate the variables responsible for change. The replication study reported in this document varied the setting, the subjects and certain evaluation conditions from the original study.

Generalization

A step toward the evaluation of generalization was conducted in two stages. First, generalization was assessed by a comparison of subjects' performance in a simulated assessment, "Simulation-General/Vocational Skills" (Appendix G) before and after training. Second, evaluation of generalization involved an ongoing observation via videotape of subjects' social interactions in the natural environment (work setting) prior to and during training. The simulated evaluations were conducted one week before baseline and one week following the training games. The initial simulation, in addition to serving as a pretest, also served as a basis

for group assignment. The initial simulation was compared with the post training simulation as a test for generalization. The simulation script is an arrangement of 30 of the 48 game situations in a sequence as they might occur in a workshop. In the replication study, the simulations were acted out by two people not associated with the study who served as employees; the supervisor role in the simulation was played by the actual work supervisor of the subjects. [This is in contrast to the Foxx et al. (1984) study in which the supervisor role was played by a non-involved person]. Prior to the pretest simulation role play, the researcher said to the subject being evaluated: "subject, I want you to meet _____ and _____. They are going to pretend to be working with you for about 15 minutes. This pretending is called role play. Your supervisor, _____, will also be in the role play. Let's begin now, and pretend that you are working with _____ and _____."

The second assessment of generalization involved a 15 minute daily videotaping with a Magnovox Recording Deck and Tuner (Model VR8350BK01 and VR8361BK01) and a Konica Camera (Model CV301) of the social interaction behavior of each group of three players while working on a job. The job consisted of a three person structured team task involving selecting, stapling and placing papers in an envelope.

Video recordings were made each workday for one week prior to the start of baseline in order to facilitate the player's adaptation to the presence of the recorder. Before the videotaping sessions began, each player was instructed as to his/her part of the task. Before the initial video taping, the supervisor read the following statement to the subjects: "I want you to work on this paper job as a team. As you work, you may talk to each other or me as much as you want to. It would be best to talk about work". Subject 1's name was placed at his/her work position, subject 2's name was placed at his/her work station, etc. in order to facilitate rotation and ensure evaluation of responses for the corresponding person. The paper job was located at one end of a table with three set positions as follows: Position 1: Subject selected three papers of the same dimension out of a box containing 2 sizes of paper and placed the papers in front of the subject at position 2. The second subject lined the papers up, stapled and handed papers to the person at position 3. The third subject folded and placed the papers in an envelope and put the completed piece in a box (Foxx et al., 1984). The positions were rotated among the subjects. A slight adaptation of folding was enacted for Group One, Subject 2 because of physical disability associated with cerebral palsy. A camera operator was not used since the subjects did not move about during the 15 minute video

taping. (The supervisor interacted three times with each subject on a structured basis during each session utilizing the Supervisor Interaction Sheet (Appendix F) as a guide.

Setting

All games (baseline and training) were played during work hours in the natural environment (work area) to which the skills were expected to generalize. The original work area was located in a 35' x 35' room with three windows and adjacent kitchen area and breakroom (Appendix N). Eleven people worked at tables located throughout the room, with 2-4 staff members present. The games were played at one end of the work area at a table seating 3 players and the facilitator. Other workers were involved in their work assignments approximately 6 feet from the game area. The work area setting changed unexpectedly on Day 9 of the study (Appendix O). The new setting was approximately 150' x 100' with five windows and adjacent area with coke machine and coat racks. Approximately 40 people worked at tables located througout the room, with 6-8 staff members present. The games were played at one end of the room at a table seating 3 players and the facilitator. Other workers were involved in their work assignments approximately 20 feet from the game area.

Data Collection and Instruments

Data was collected as follows:

1. Subject responses to game card situations were scored during the game by the researcher on the Facilitator Scoring Sheet (Appendix J). Responses during the games were tape recorded (Realistic, Model 14-1008) in order to be later scored by an independent rater. Responses were scored as correct or incorrect according to criteria as stated in "Stacking the Deck" (Appendix H). Foxx and McMorrow (1983) developed the criteria by gathering written responses to each situation from 20 nonhandicapped people disassociated with the training. Specific criteria for correct responses in each area were developed from these written responses. Also 10 mental health personnel familiar with vocational settings responded in writing to each situation and their responses were used as validation of the criteria. In the replication study, the facilitator (researcher) scored each response during the game. An independent rater scored responses from the tape recordings.
2. Probe data was collected on the number of words used by each subject to respond to situations during the baseline games and training games. Probe data was

also collected on the number of words used by each subject to respond to questions in the "Simulation-General/Vocational Skills" pre and post assessment (Appendix G). Responses were tape recorded and words per reponse were counted by the facilitator and also by an independent counter.

3. Overall workshop adjustment was evaluated by the supervisor before training and following training using the "Work Behavior Rating Scale" (Shushan, 1972). This instrument was developed to assess training progress and vocational development, identify specific behavioral and performance deficiencies requiring remedial action, and determine readiness for community job placement of mentally retarded adults. The items were selected and refined by a review of the literature to identify trainee behavior considered critical to successful job performance; a questionnaire requesting rating of 21 specific critical behaviors was mailed to 55 workshop management personnel, rehabilitation courselors and supervisors; from the tabulated results, 14 items were chosen for inclusion in a descriptive graphic type rating scale. Through extensive field testing, the instrument was refined to 13 work behavior items rated on a 1-9 descriptive scale. The first nine items were

considered as particularily relevant to this replication study and were considered as a unit when comparing the pre and post supervisor rating of subjects. The first nine items are as follows: co-worker relations, disruptiveness, tolerance for criticism, independence from supervision, cooperation with supervisor, understanding oral instructions, memory for instructions, motivation for work and concentration ability.

Generalization to nontargeted behaviors in the worksetting was evaluated in two stages:

1. Daily 15 minute videotape recording were made of each group of three subjects as they worked on a structured task. A Konica camera, Model CV301 and a Magnavox recording deck (Model VR8350BK01)and tuner (Model VR8361BK01) were used to record interactions. The tapes were evaluated by scoring the appropriateness or the correctness of interactions in each 2 minute section of recording by the researcher. Verbalization was evaluated according to the six social areas targeted during training, applying the scoring criteria for that area. Foxx et al. (1984) scored only interactions between players. The replication study differed in that three supervisor questions per

subject were structured into each group's daily videotaping. Supervisor questions were guided by the "Supervisor Interaction Sheet" (see Appendix F). The nature of the supervisor question was dependent on the work situation at that time. The verbal responses to the supervisor questions were scored as "correct" or "incorrect" by the researcher according to the criteria for the particular category. All other verbal interactions that occurred in the work sessions were categorized by the researcher according to the six social skills areas targeted during training and scored as "appropriate" or "inappropriate" using the criteria (Foxx et al., 1984) for that area.

2. The "Simulation-General/Vocational Skills" (Appendix G) evaluation was used as a pre and post test, providing an indication of generalization. This assessment involved an individual 15 minute role playing conducted in the work area one week prior to training and again one week following training. Subject responses were tape recorded and scored as correct or incorrect by the researcher according to the criteria for that area (see Appendix H).

Reliability

Each response to a game card was scored correct/-

incorrect by the facilitator (researcher). 50% of the games from each condition were scored correct/incorrect by an independent trained scorer. The independent scorer was furnished with a tape recording of the game responses, a copy of the 48 game situations with sample correct responses (Appendix K), the criteria for a correct response (Appendix H) and a score sheet (Appendix J). Interrater reliability was calculated by dividing agreements by agreements plus disagreements x 100 (Kazdin, 1982). During the baseline and training games, the mean interrater reliability between the facilitator and the independent scorer for Group One was 92.1% (range 83.3% to 100%); the interrater reliability for Group Two was 91.6% (range 89.5% to 93.7%).

Reliability of the pre and post simulations was determined by comparing the scores of the facilitator with those of an independently trained rater who was given a verbatim transcript of each player's responses as well as a written copy of the simulation. Interrater reliability was determined by dividing agreements by agreements plus disagreements x 100 (Kazdin, 1982). Mean interrater reliability on the pretest simulation across the six subjects was 89.6% (range 84% to 100%). Interrater reliability on the posttest across the six subjects was 89.78 (range 80 to 100).

Reliability on the number of words players used per

response during the games and simulations was determined by an independent rater and the facilitator independently scoring two probe games from each condition and the simulations from verbatim transcripts. Interrater reliability was determined by dividing agreements by agreements plus disagreements x 100. Mean interrater reliability across the six subjects across conditions was 100% for the words per response used during the games. Mean interrater reliability was 100% for words per response used during the pretest and posttest simulation.

Total scale interrater reliability of the Work Behavior Rating Scale (Shushan, 1972) was reported to be .80.

Reliability of verbal interactions in the worksetting was obtained by facilitator and trained observer independent ratings. Interrater reliability was calculated for each group by selecting on an odd-even basis 50% of the videotaped sessions from each condition. Reliability was calculated by dividing the number of agreements in each interactional category by the total number of scored interactions, times 100. Mean interrater reliability for Group One across sessions was 91.6% (range 82.1% to 99.2%). Mean interrater reliability for Group Two across sessions was 92.7% (range 83.8% to 100%). Chapter IV will present the results of the social/vocational skills training game sessions.

C H A P T E R I V

EXPERIMENTAL RESULTS

Introduction

The purpose of this experiment was to investigate the effects of a 12 hour series of table game training sessions on the social/vocational verbal responses of workers with mild or moderate retardation. In Chapter IV, results of the training sessions are presented as related to the research hypotheses, followed by a comparison with the results of the original study (Foxx et al., 1984). The writer addressed the following hypotheses:

1. Specific social/vocational verbal responses related to the maintenance of employment for mildly and moderately retarded workers will be improved after the completion of a 12 hour series of table game training sessions.
2. Specific social/vocational verbal responses of mildly and moderately retarded workers will generalize across conditions.
3. Specific social/vocational verbal responses of mildly and moderately retarded workers will be improved in the natural environment (work setting) as a result of

participation in a 12 hour series of table games designed to teach appropriate responses.

4. Words per response to the game card situations will increase as a result of participation in a 12 hour series of table games.
5. Overall workshop adjustment will be improved by participation in a series of social/vocational training games.

Results of Training Sessions and Verbal Responses

Visual Inspection refers to visual examination of the graphed data that allows a judgement to be made about the reliability of intervention effect. In order for changes to be evident through visual inspection, it is necessary that the changes be marked; weak results will not be evident. Therefore, visual inspection can serve as a filter that allows only clear interventions to be interpreted as producing reliable results (Kazdin, 1982).

Replication study. Two of the most important characteristics of the data to be visually inspected are the magnitude of the change across phases and the rate of these changes. The two characteristice related to magnitude are changes in mean and level; the two characteristics related to rate are trend and latency of the change (Kazdin, 1982). The first characteristic to be discussed is magnitude of

change across phases with attention given to mean and level. An inspection of Figure 1 reveals that the average rate of performance of Group One changed from 30.5% during baseline to 66.1% during the training games. The average rate of performance of Group Two changed from 22.9% during baseline to 55.9% during the training games. Comparable individual subject changes in mean are evident in Figure 2.

Changes in level refer to the shift of performance from the end of one phase to the beginning of the next phase (Kazdin, 1982). Inspection of Figure 1 reveals that after the intervention was implemented (following game 4 for Group One) performance shifted from 30% to 47%. Similarly, after the intervention was implemented for Group Two (following game 8), performance shifted from 33% to 44%. These positive changes in level across conditions attained by both groups suggest that intervention led to reliable effects. Comparable changes in level may be seen for each individual student by inspecting Figure 2.

The two characteristics related to rate are trend and latency of change. The first to be discussed is trend of the change. Trend or slope refers to the tendency to show systematic increases or decreases. Group 1 approached a stable baseline or no trend during the initial four games (Figure 1). A systematic increase in correct responses is evident from the upward trend during training games. The

Figure 1

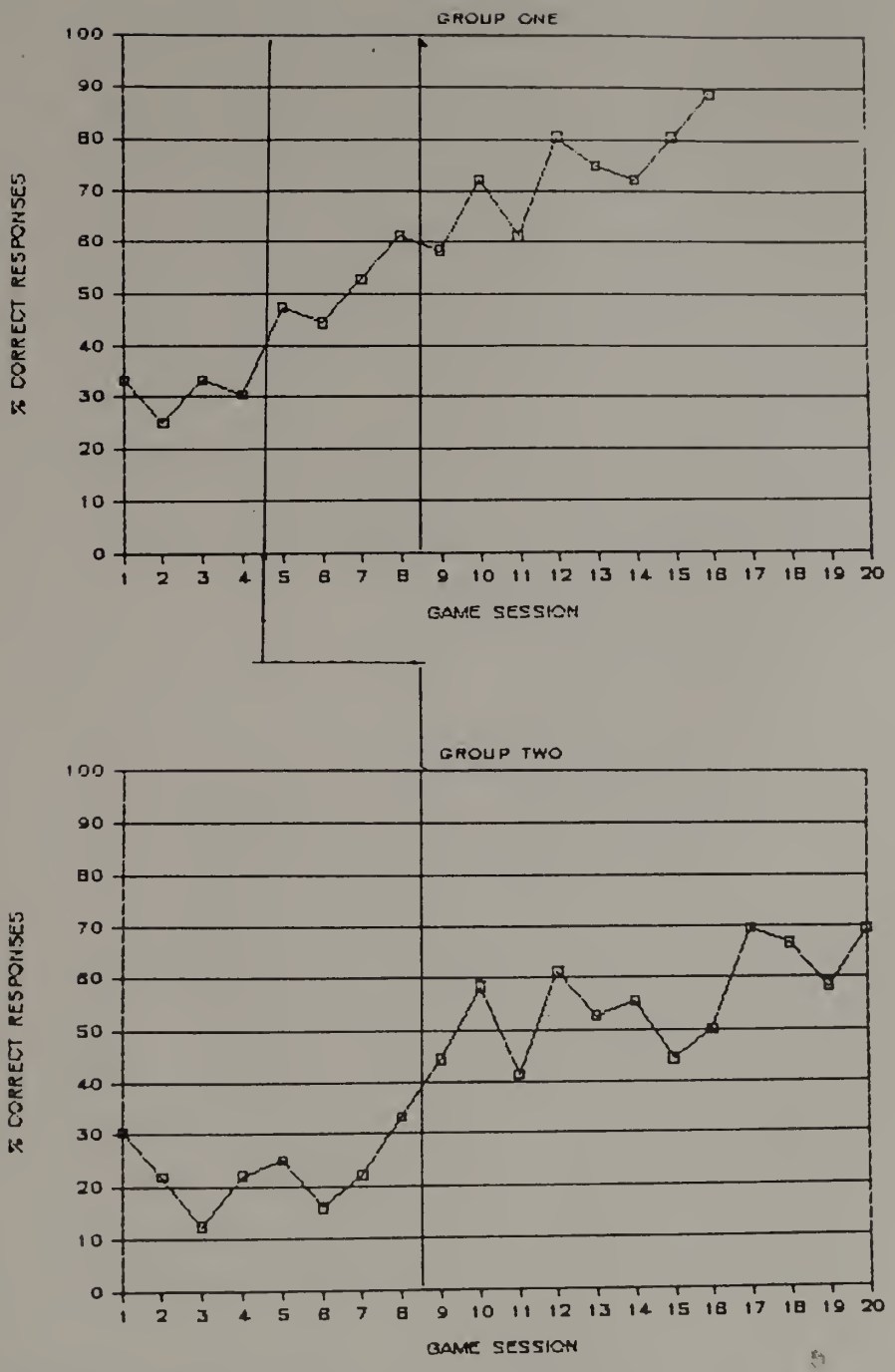


Figure 1. Group mean % correct responses in game sessions across conditions.

Figure 2

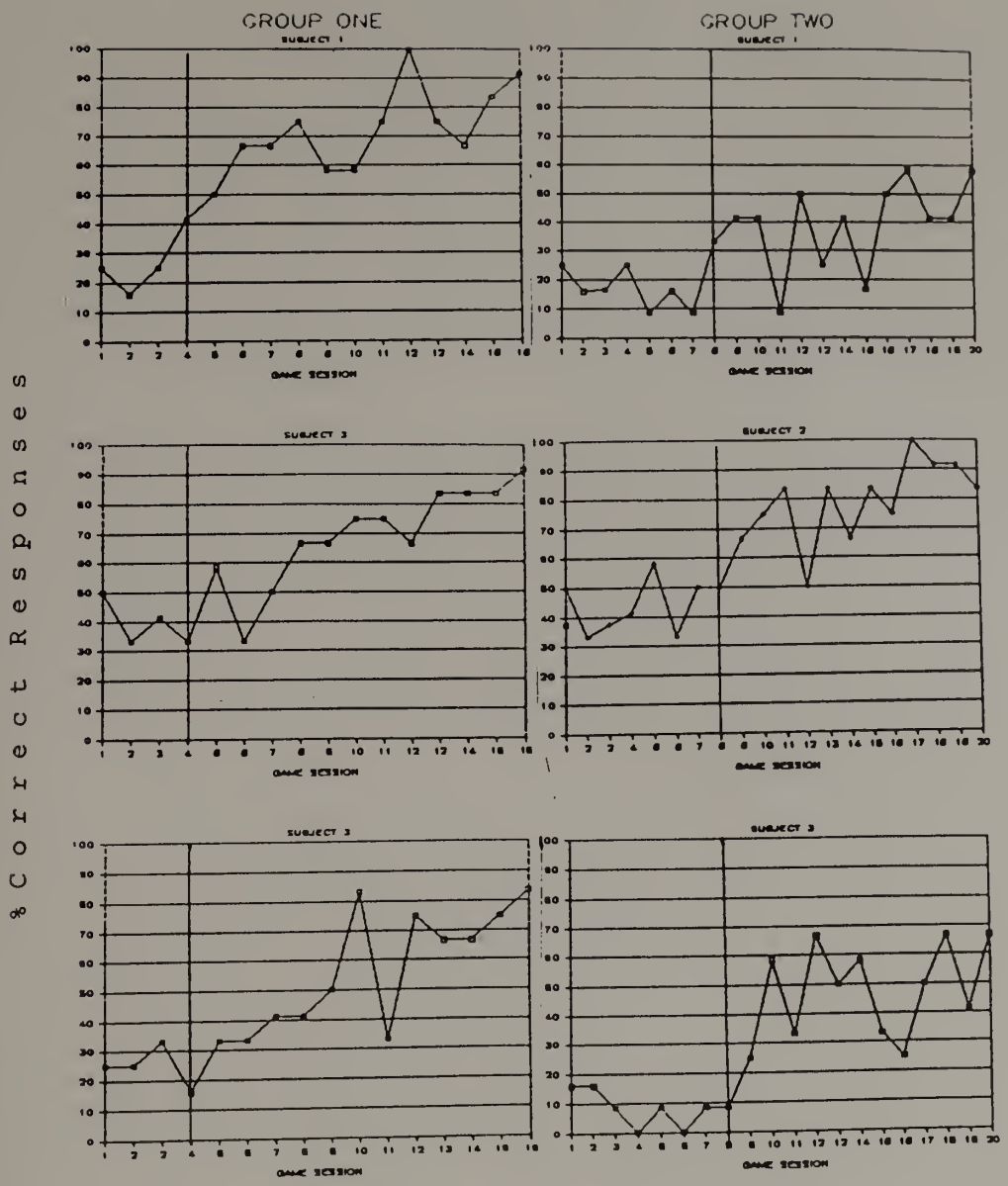


Figure 2. Individual subject mean % correct responses in game sessions across conditions.

split-middle technique confirms the positive slope (1.5) during treatment condition (Barlow & Hersen, 1984). The Group Two baseline data is less stable than that of Group One. Similarily, the upward trend during training games is less dramatic (1.1 slope) but does reveal systematic increases in correct responses. An inspection of Figure 2 reveals that individual subjects in Group One showed a more positive trend than Group Two subjects.

Latency of change refers to the period between conditions and changes in performance. Effects of intervention are clarified as changes occur near the time of condition alteration. Positive change (18%) occured in the responses of Group One immediately following intervention. A similar positive change (9%) may be seen in the responses of Group Two (Figure 1). These changes immediately following change of condition indicate that intervention produced positive effects. Consideration of the latency factor also indicates positive changes in individual subject responses as revealed in Figure 2. The effects are clearly evident in the responses of Group One, Subject 1 and Group Two, Subject 3 (Figure 2).

In addition to mean, level and trend and latency, visual inspection depends on other background characteristics such as the variability of performance within phases. Group Two experienced variability within the

treatment condition that may be indicative of factors other than treatment affecting behavior (Figure 1). Group Two individual subjects (particularily Subjects 1 and 3) experienced variability within the treatment condition that may be indicative of factors other than treatment affecting behavior (Figure 2).

Replication and original study. The experimental training games described by this researcher are a replication of the study conducted by Foxx et al. (1984) with certain alterations. One of the primary changes incorporated into the present study was a planned change of setting. Whereas the Foxx training games were conducted in a large basement room, the games in the present study were conducted in the actual work setting. The purpose of this change was to evaluate the efficacy of training in the worksetting: (1) Is it possible to learn verbal responses in a noisy, distracting environment? (2) Will training in the environment to which the skills are expected to generalize enhance the process of generalization? Figure 1 reveals that responses were learned at a rate comparable to that of the Foxx et al. (1984) study. Foxx et al. report that Group One responded correctly to an average of 43.0% of the game situations during baseline and 76.8% during training, representing an increase of 33.8%. During the present study, Group One responded correctly to an average of 30.5% during

baseline and 66.1% during training, representing an increase of 35.6%. Foxx et al. report that Group Two responded correctly to an average of 38.8% during baseline and 71.1% during training games, representing an increase of 32.9%. During the replication study, Group Two responded correctly to an average of 22.9% during baseline and 55.9% during training, representing an increase of 32.9%. Although the actual increase is identical for Group Two of both studies, Group Two of the replication study did not reach near 90% correct by the end of the training games as Foxx reported for both groups in the 1984 study.

Generalization Across Conditions

Replication Study. Pre and post simulations were conducted in the work setting by the workers' supervisor and two confederate employees who had no prior experience with the subjects. One purpose of this assessment was to evaluate generalization of targeted responses under different conditions. In contrast to the Foxx et al. (1984) study, the replication study conducted the simulation in the actual work setting with the regular supervisor playing the supervisor role. Similar to the Foxx study, two adults, previously unknown to the subjects, played the roles of Employee 1 and Employee 2.

Group One averaged 33.5% correct on the preassessment

and 65.5% on the postassessment. Group Two averaged 21.34% and 41% respectively (Figure 1). Group One individual gains from pretest to posttest ranged from 20% to 46%; Group Two individual gains ranged from 3.3% to 30%.

Replication and original study. The simulation results reported in the replication study (previous paragraph) are comparable to those reported by Foxx et al. (1984). In the Foxx study, Group One averaged 33.4% correct in the preassessment and 63.2% in the post assessment. Group Two averaged 30.5% and 62.2% respectively. Group One individual gains from pre to post test ranged from 13.3% to 52.9%; Group Two ranged from 21.7% to 40.0% respectively.

Verbal Responses and the Worksetting

Replication Study. Work sessions of Group One were video taped for 15 minutes daily as the subjects worked on a structured task. Work sessions of Group Two subjects were videotaped in a similar manner. Each subject was exposed by the supervisor to three situations that had been addressed in the table game training sessions (Appendix F, Supervisor Interaction Sheet). In addition, certain alterations in the environment were planned for each session in order to assess targeted question asking skills (i.e., paper, envelopes or staples would become depleted during the course of the session). Responses to supervisor questions were scored

"correct" or "incorrect"; other verbal interactions were categorized according to Foxx's six areas of social skills, and scored as "appropriate" or "inappropriate" according to Foxx's criteria by the researcher.

An inspection of Figure 3 shows that the Group One average rate of appropriate/correct verbal responses changed from 51% during baseline to 72% during training. Group Two average rate changed from 43% to 61% respectively.

Further inspection of Figure 3 indicates positive changes in level occurred within Group A and Group B following intervention (following game 4 and game 8 respectively). Positive changes in level are also evident in individual subject workshop responses following intervention with the exceptions of Subjects 2 in each group (Figure 4).

A positive trend for Group One is indicated in Figure 3. This positive slope is not evident in Group Two performance. Trends for individual subjects are not consistent; the performance of Subject 3, Group 1 shows a positive trend while the trends of the remaining Group One subjects are ambigious. Similarly, the trends of the Group Two subjects are ambigious with the exception of Subject 2, Group Two who shows a slight positive slope (Figure 4).

Replication and original study. The changes in mean percent appropriate/correct responses across conditions reported in

Figure 3

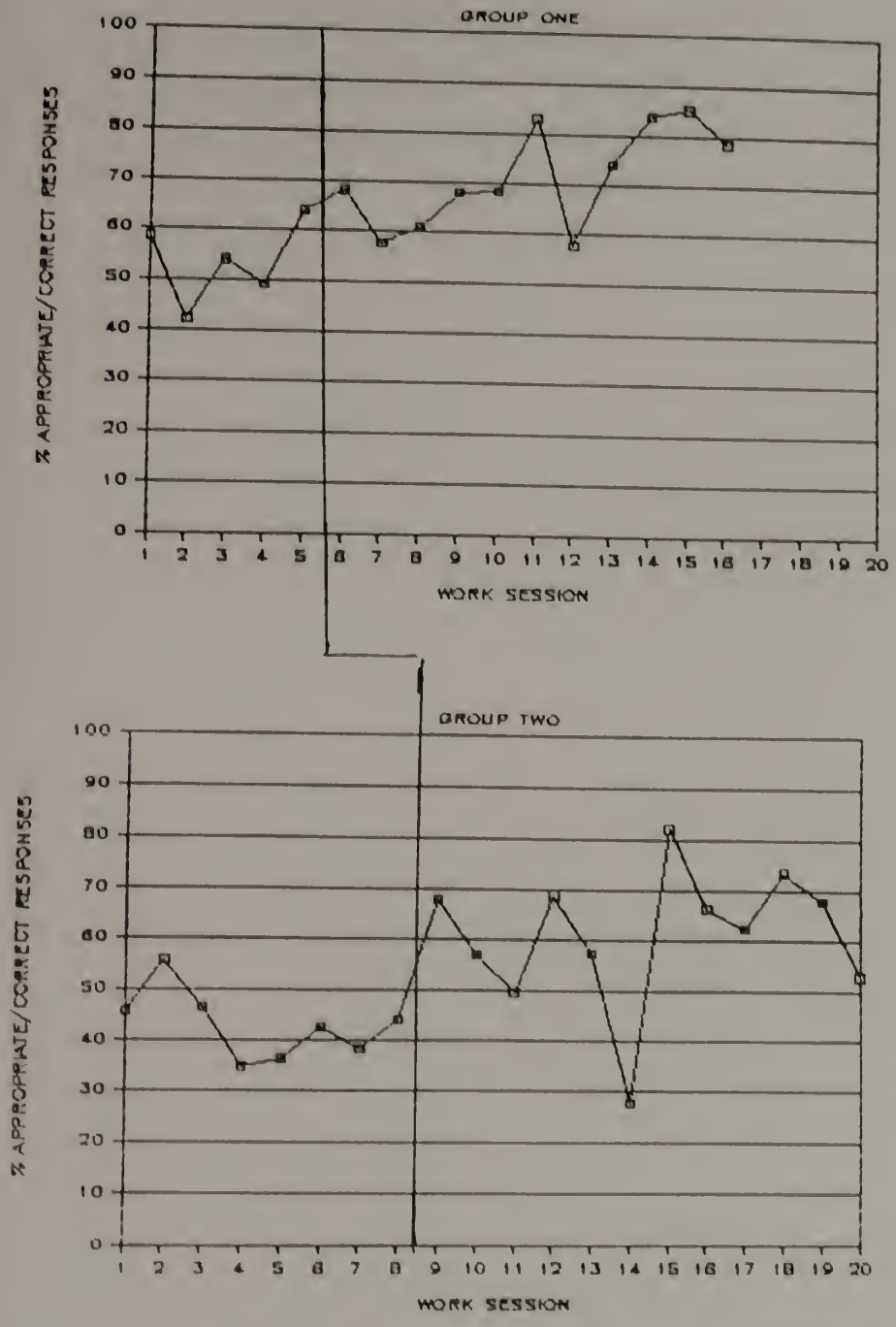


Figure 3. Group mean % appropriate/correct responses in work sessions across conditions.

Figure 4

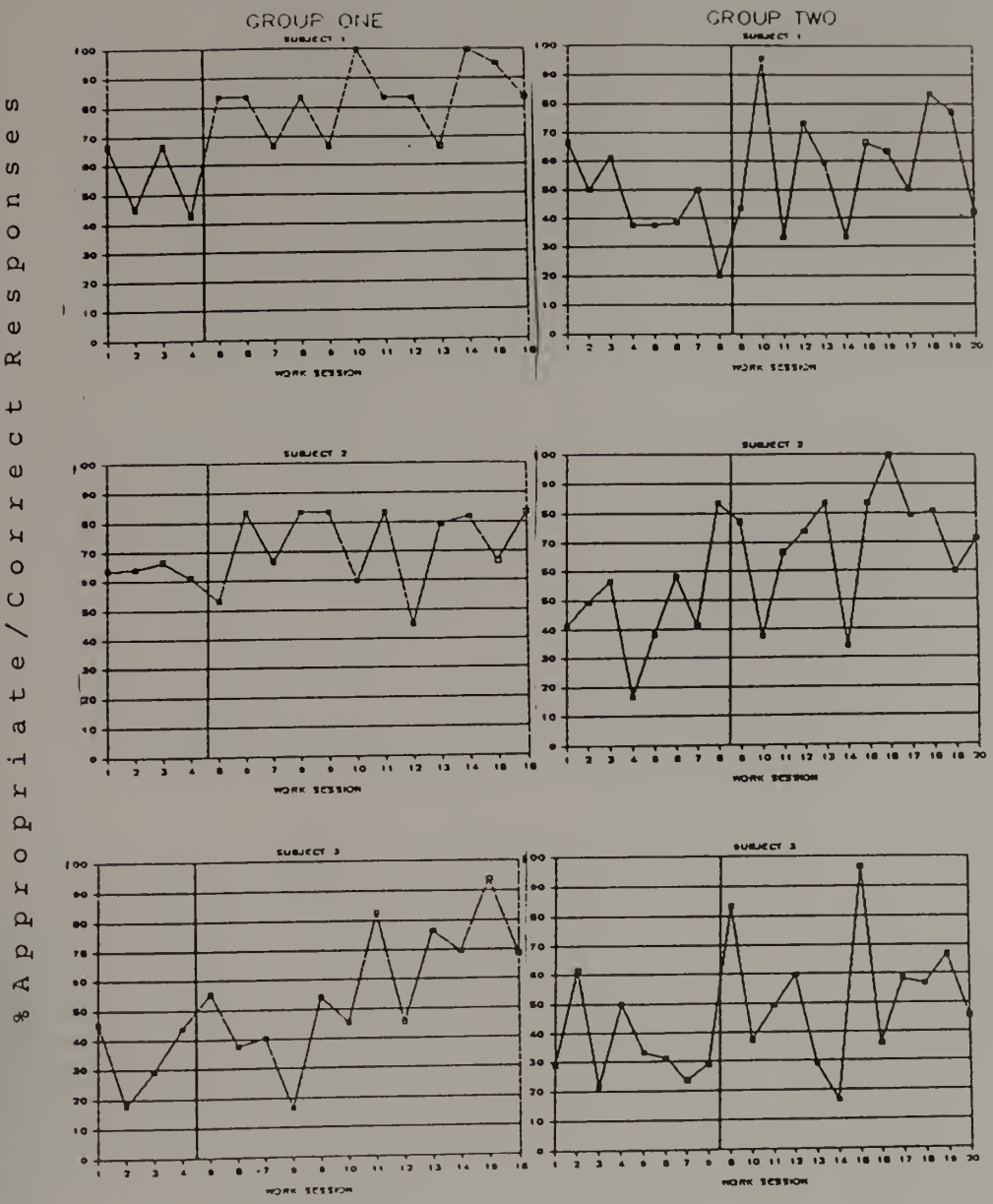


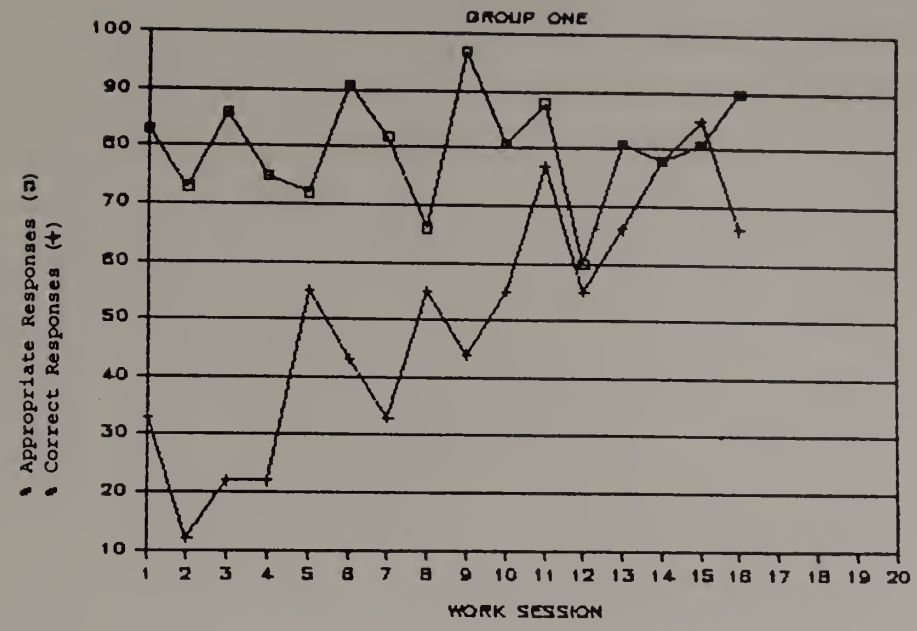
Figure 4. Individual subject mean % appropriate/correct responses in work sessions across conditions.

Figure 4 are comparable to those reported by Foxx et al. (1984). Foxx reports that Group One and Group Two increased from 20.9% to 33.0% and from 50.4% to 67.5% respectively. Group One and Group Two in the replication study increased from 51% to 71% and from 45% to 61% respectively in appropriate/correct responses (Figure 4). However, an inspection of Figure 5 shows that the appropriate verbalizations in the replication study, when considered separately, did not change in mean across conditions.

Variability in the data. Variability in the data will be examined in Figures 5 and 6, reporting variations in appropriate verbalizations as well as in correct verbal responses. Group One had a mean of 75.1 appropriate verbalizations in the work sessions during the time period that the training games were in progress. Group One had a mean of 59.5% correct verbal responses in the work sessions during that same time period (Figure 5).

Group Two had a mean of 74.9 appropriate verbalizations in the work sessions during the time period that the training games were in progress. Group Two had a mean of 46.7% correct verbal responses in the work sessions during that same time period (Figure 5). The Group One data appearing in Figure 5 is averaged and presented in Figure 3 as an overall picture of the appropriate/correct verbal interactions in the work sessions during the training

Figure 5



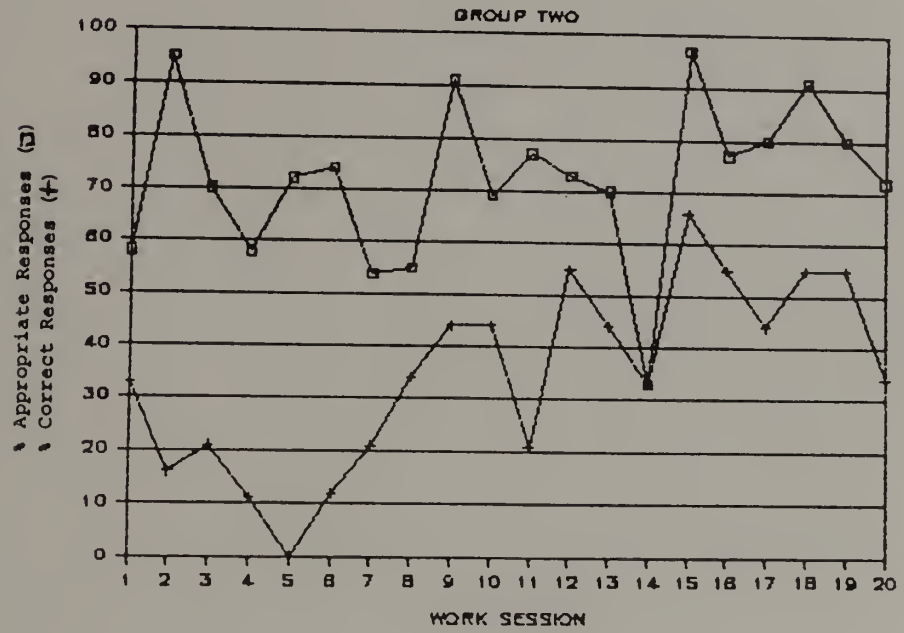


Figure 5. Group mean % Appropriate Responses in work sessions (□). Group mean % Correct Responses in work sessions (+).

Figure 6

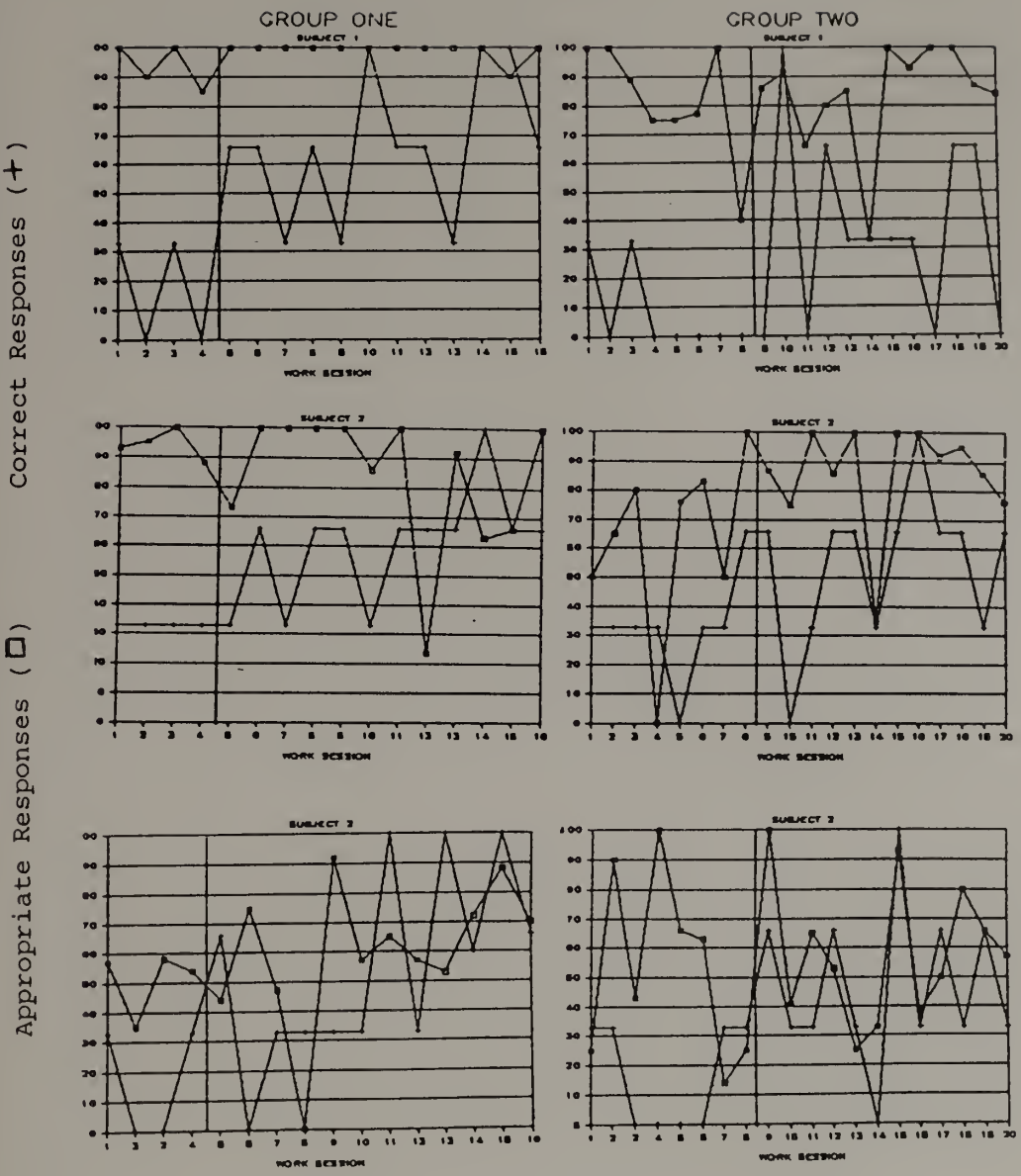


Figure 6. Individual subject mean % Appropriate Responses in work sessions (□).
Individual subject mean % Correct Responses in work sessions (+).

period; the Group Two data appearing in Figure 5 is treated in a similar manner. In order to report the variations within the Figure 3 data, it is necessary to compare Figure 5 information. The low and high point in the Group One and Group Two data, Figure 3, will be presented.

Group One reached a low point of 58% mean appropriate/-correct interactions on Session 12 during the training period. On Session 12, Group One mean percent scores for appropriate as well as correct scores were below means (27% and 5% respectively). On that day, correct verbal responses did not vary more than on the surrounding days for each of the subjects; however, the appropriate verbalizations of Subject 2 dipped to a low of 25% (55% below the subject's mean), (Figure 6).

Group One reached a high point of 87.5% mean appropriate/correct interactions on Session 15 of the training period (Figure 3). On that day scores for appropriate as well as correct responses were above the group means (7% and 10% respectively). An inspection of Figure 6 shows no unusual behavior for individual subjects on Session 15.

The lowest point in the Group 2 data occurred on Session 14. The appropriate as well as the correct responses were below mean (32% and 12% respectively) as shown on Figure 5. Subjects 1 and 2 dropped considerably

inappropriate verbalization in that session (50% and 49% below respective means).

The highest point in the Group 2 data occurred on Session 15 (Figure 3). Group appropriate as well as correct responses were above mean (15% and 19% respectively). An inspection of Figure 6 shows that while Subjects 1 and 2 were each approximately 12% above their means on Session 15, Subject 3 was substantially above mean (37%).

Another possible source of variability in scores lies in the range of scores within each category on the Supervisor Interaction Sheet (Appendix F). The Percentages of Group 1 and Group 2 correct responses within selected categories is presented in Table 2.

Table 2

Mean percent correct subject responses to selected categorical questions from "Supervisor Interaction Sheet".

Politeness,	Group 1, #25....0%; #26..100%;	Group 2, #25..16% " ", #26..83.3%
Questions,	Group 1, #16...40%; #28...66.6%;	Group 2, #16...0% " ", #28...83.3%
Social Confrontation	Group 1, #4.....0%; #6.....83%;	" ", #4....0% " ", #6....85%

A wide range of correct responses within the Social Confrontation category may be seen on Table 2. Group 1 and 2 responded correctly an average of 83.3% and 85% respectively

to Question 6, "What would you say if another worker asked you to come over and work with him/her, but you had been told to stay on this job?"; answer, "I can't right now. I have to stay on this job". In contrast, Group 1 and Group 2 responded correctly an average of 0% and 0% respectively to Question 4 in the Social Confrontation category, "Subject, pretend co-worker will get mad if you don't stop work and talk to him/her. What should you do?"; answer, say, "I like talking with you, but not while I'm working".

A broad range of responses may be seen within the Politeness category as Group 1 answered #25 an average of 0% correct. "Pretend that you borrowed co-worker's stapler while she was gone from her work table. What would you say when she comes back and you still need the stapler?"; answer, "I borrowed your stapler. I'll be done with it in a minute". On the other hand, Group 1 answered #26 (politeness category) an average of 100% correct. "What would you say if you burped accidently?"; answer, "excuse me, I didn't mean to burp".

Both Group 1 and Group 2 scored low in the category of compliments. The lowest mean score (0%) was Group 1, #24; "if another worker says to you, `I'd like to work with you sometime; you're a good worker', what would you say?"; answer, "thanks, I'd like to work with you, too".

Words per Response

Replication study. Words per response (wpr) was not targeted in the training, but was considered to be a corollary measure reflecting the complexity of the player's responding. Group One used a mean of 3.3 wpr in the two sampled baseline games. Group Two used a mean of 3.3 wpr in the two sampled baseline games. Group One used a mean of 4.6 wpr in the two sampled training games. Group Two used a mean of 4.3 wpr in the two sampled training game.

In the Simulation Pretest, Group One used a mean of 1.85 wpr and increased to 3.2 wpr in the posttest. Group Two used a mean of 2.51 and 2.54 respectively. Group One individual total words ranged from 45 to 73 in the pretest and 70 to 121 in the posttest. Group Two individual total words ranged from 46 to 95 in the pretest and 53 to 105 in the posttest. Group 2, Subject 1 used the same number of words in the pre and posttest. Group 2, Subject 3 decreased by 25% at posttest. Each of the subjects in Group One increased in wpr from pre to posttest.

Replication and original study. Words per response (wpr) will be reported from the game situations as well as from the simulation assessments. The game situations will be discussed first. In the two baseline games sampled, Foxx (1984) reported that Group One and Group Two used a mean of

4.3 and 4.8 wpr respectively. Group One and Two increased to a mean of 7.8 and 5.3 respectively during the 12 game training sessions. In the replication study, Group One and Two used a mean of 3.3 and 3.3 wpr respectively in the two baseline games sampled. Group One and Two increased to a mean of 4.6 and 4.3 wpr respectively during the 12 game training sessions. The Foxx study Group One and Two gains across conditions (81.3% and 10.4%) represent a greater range than the gains accomplished by the Group One and Two of the replication study (28.3% and 23.3% respectively).

In the preassessment simulation, Foxx et al. (1984) report that Group One used a mean of 2.5 wpr and increased to 4.1 wpr in the postassessment simulation. Group Two used 2.7 wpr in the preassessment and increased to 4.7 wpr in the postassessment. In the replication study, Group One used a mean of 1.85 wpr in the preassessment and increased to 3.2 wpr in the postassessment. Group Two used a mean of 2.15 and 2.54 wpr respectively.

Overall Work Adjustment

The overall work adjustment of the subjects was evaluated a week prior to treatment and a week following treatment. Work adjustment was evaluated by the supervisor of each subject (three supervisors for six subjects). The Work Behavior Rating Scale (Shushan, 1972), a 13 item

descriptive rating scale, was utilized. The first nine of the 13 items were the most closely related to the present study. The score of the first nine items as well as the total score for each subject will be reported.

An inspection of Table 3 shows the percentage of change from pretest to post test for each of the subjects on the first nine categories was as follows: 6%, -1.5%, 18.7%, 15%, 28% and 39% respectively. Each of the subjects improved in the first nine categories with the exception of Group One, Subject 2 who decreased from a pretest rating of 7 to a post rating of 3.1 (scale of 1-9) in the area of cooperation with the supervisor.

The change from pre to posttest for each of the subjects on the entire 13 items was as follows: 3.8%, 1.3%, 11.2%, 11.7%, 27.3%, and 32% respectively (see Table 3).

Conclusion. Results have been exhibited in Chapter IV that replicate the findings of Foxx et al. (1984) in several areas. However, the replication study introduced several variables that produced more inconsistency in the data than was reported in the Foxx study. Limitations of the replication study will be discussed in Chapter V. The replication study results that have been reported in Chapter IV will be analyzed and interpreted in Chapter V. Comparisons between the replication and the original study will be made in Chapter V. Conclusions based on the

TABLE 3

Scores (Scale 1-9) on Pre and Post Treatment Supervisor Ratings of Subjects' Work Adjustment Using The Behavior Rating Scale.

	GROUP ONE						GROUP TWO					
	Sub. 1		Sub. 2		Sub. 3		Sub. 1		Sub. 2		Sub. 3	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1. Co-worker relations:	6	7	4.5	4.2	6.1	7	6	7	7.3	8.7	4.6	7
2. Disruptiveness:	3	3	3.6	3.7	3.6	3.7	5	5	5.1	7.4	2.8	3.6
3. Tolerance for criticism:	6	5	1.6	1.7	5.2	5	3	3	9	9	5.1	7.8
4. Independence:	6	6	5.8	6.1	3.2	5	6	7	2.2	2.8	4.6	7.3
5. Cooperation:	6	6	7	3.1	5.2	6	6	7	9	9	5.2	8.9
6. Understanding oral directions:	6	6	7.5	7.8	5.2	6	6	6	1.6	5	6	6.2
7. Memory for instructions:	4	6	7.2	7.4	5.2	6	4	4	3.2	4.9	5.8	8.4
8. Motivation:	7	8	4.2	4.2	5.2	6	5	7	5.2	7.9	5.1	6.5
9. Concentration:	5	5	3.2	5.2	3.2	4	5	7	2.1	3.2	5.7	6.1
SUBTOTAL:	49	52	44.6	43.9	42.1	50	46	53	44.7	57.6	44.4	61.8
10. Punctuality:	8	8	5.4	8.2	5.2	6	5	5	5.7	7.4	8.6	9.6
11. Quality of work:	6	7	5.1	3.8	6.2	6	6	6	2.4	3.9	5.6	7
12. Quantity of work:	6	5	4.7	4.8	6.2	5	4	3	1	1	3.6	3.6
13. Safety awareness:	8	8	4.7	4.7	8.6	9	7	9	6.2	6.5	5.1	7.4
TOTALS:	77	80	64.5	65.4	68.3	76	68	76	60	76.4	67.3	89.4

replication study, as well as areas for future research, will be discussed in Chapter V.

CHAPTER V

DISCUSSION OF RESULTS

Introduction

The purpose of this study was to investigate the effects of a 12 hour series of table game training sessions on the social/vocational verbal responses of workers with mild or moderate retardation. A brief review of the hypotheses and associated questions is given below.

1. Specific social/vocational verbal responses related to the maintenance of employment for mildly and moderately retarded workers will be improved after the completion of a 12 hour series of table game training sessions. Two associated questions will be addressed in Section One: (1) Is it possible to teach complex verbal responses in the actual work setting? (2) What are the possible sources of variation in the subjects' ability to respond to the training game situations?
2. Specific social/vocational verbal responses of mildly and moderately retarded workers will generalize across conditions. The associated question of whether the generalization to a simulated condition will be facilitated by utilizing the natural setting and

actual work supervisor of the participants, as opposed to a separate setting with props and an unknown person taking the role of supervisor, will also be addressed in Section Two.

3. Specific social/vocational verbal responses of mildly and moderately retarded workers will be improved in the natural environment (work setting) as a result of participation in the training sessions. The associated question of whether structured interaction (by manipulation of the environment and supervisor initiated interaction) facilitates generalization will also be addressed in section three.
4. Words per response to the game card situations will increase as a result of participation in the training sessions.
5. Overall work adjustment will be improved by participation in the training sessions as judged by work supervisors.

Training Sessions and Verbal Responses

The results of the experiment show that verbal responses related to the maintenance of employment were learned as a result of participation in the training games. Group One was considered the experimental group in this design; Group Two was considered to be the replication

group. Evidence of improvement was indicated by the positive changes in Group One correct responses following intervention. Group Two provided a direct replication by attaining comparable correct responses, indicating that the results are not restricted to the subjects in Group One (Kazdin, 1982). The improvement is evidenced in positive changes that occurred in mean, level, trend and latency of the graphed data for each group (Figure 1) and subjects within each group (Figure 2). The average rate of Group One changed from 30.5% mean baseline condition to 66.1% mean training condition. Group Two changed from 22.9% mean baseline performance to 55.9% mean training performance. The increase of the two groups (35.6% and 32.9% respectively) provide comparable results. Comparable results are also seen in changes in level (17% and 11% respectively). Positive changes in trend or slope were accomplished in both groups. The comparable results that were produced in the experimental group (Group One) as well as the replication group (Group Two) provide evidence that intervention led to consistent results (Barlow & Hersen, 1984).

The question of whether it is possible to teach complex verbal responses in the natural setting may be answered affirmatively according to the above data. However, the variability in the data presents a second question...what

are the sources of the variability in the groups and individual subjects?

Sources of response variability. The results depicted in Figure 1 as well as Figure 2 show variability in the data indicating factors other than training affecting behavior. The variability will be discussed within the following three categories: (1) environmental, (2) personal, and (3) the training program.

Environmental. Training in the work environment presented numerous variables that possibly affected the ability of the subjects to learn verbal responses. One variable was an unplanned change in setting that occurred on Day 9 (Session 9). The table game sessions initially took place in a small workshop housing approximately 18 workers. This small workshop was the regular work place for two of the subjects. The remaining four subjects' regular work place was in a large building adjacent to the small workshop. On Day 9 of the study, the small workshop merged with the larger adjacent workshop necessitating a change of setting for the study (Appendix O). Four of the subjects were familiar with the new training setting since it was their regular workplace. The other four subjects had visited this setting at various times. The new training setting was larger (approximately 100 x 200 feet) and housed approximately 30 workers and 3 supervisors plus several

other staff. Initially the new setting was quite crowded and noisy with many distractions. The first setting was often noisy and filled with distractions also; perhaps this is the reason that a noticeable negative change is not evident in the correct responses given by the subjects on Session 9 (Figure 2). On the contrary, a positive change in level from baseline to training condition is recorded on Session 9 for each of the Group Two subjects as they changed conditions.

While two subjects were more easily distracted than others, their inappropriate behavior was related to a pattern of reciprocal teasing and name-calling rather than to general environmental stimuli. Group One, Subject 3 and Group Two, Subject 3 engaged in mutual teasing and name-calling in both the old and new setting. The behaviors occurred frequently when the subjects were in the presence of each other. The inappropriate behavior not only interfered with the performance of the subject currently engaged in the training game, but also distrcted the other game participants. The other two players in the game situation would express their displeasure with the behavior by comments such as "pay attention" and "stop that". While other environmental variables such as movement, background noises and crowded conditions possibly lowered the attending and verbal discrimination skills of the players, the

inappropriate reciprocal exchanges of two subjects seemed to be the factor most closely associated with inability to respond consistently.

In summary, it would seem that a quiet place, separating players from people in the environment with whom predictable behavior problems are likely to occur, would provide an environment more conducive to learning verbal responses.

Personal. Several subjects exhibited personal behavior characteristics that contributed to their inability to respond correctly to the game card situations. Group 2, Subject 1 did not show consistent results of training. This subject was frequently moody and resistant to change. If changes had to be made in seating arrangements, the subject would become upset. The change in training setting may have caused distress (although the new setting was the subject's regular workplace). A change in this subject's verbal responding on Session 9 (the day of the setting change) is not indicated on Figure 2, suggesting that factors other than setting were affecting behavior.

Two subjects will be discussed in this paragraph, both of whom displayed inappropriate social behavior but reacted differently to the training game model. Group 2, Subject 3 showed a great deal of variability in responses and little discernible trend during training suggesting that factors

other than training were affecting behavior. Subject 3 displayed a significant amount of fantasizing, often engaging in fantasy talk accompanied by wide mood swings. It was frequently difficult to keep this subject focused on the game situations. In addition to fantasy, subject 3 was visably upset by a personnel change that occurred during the training period. The change in personnel aggravated the fantasy behavior. When Subject 3 was not engaging in fantasy, focus on the game situations was still difficult. Subject 3 would often avoid answering the situations by repeating a stereotype answer such as "you're welcome" to all questions. In contrast, the reactions of Group One, Subject 2 to the training game model was much more positive. Group One, Subject 2 was described by vocational personnel as stubborn and often reluctant to join activities. However, this subject seemed to enjoy the games, was not bothered by the distractions and learned responses at a positive rate. This subject was observed in several angry outbursts in the work setting, but had no such episodes when engaged in the training games.

Given the inconsistent responding patterns associated with the first two subjects described, it is evident that some people with characteristic behavior problems do not learn verbal responses well utilizing a table game format in the natural setting. However, the experience with the third

subject described in the preceding paragraph indicates that conclusions should be drawn tenatively with attention given to individual differences.

When discussing individual differences that interfered with learning, it is appropriate to note individual differences or strategies that facilitated learning. Group One, Subject 1 rehearsed correct answers following each question that was missed. The spontaneous rehearsal involved repeating the answer verbatim following the facilitator model. This subject also attended closely when others answered. Subject 1 also exhibited motivation and enthusiasm with exclamations such as "I got it!" or to another player, "that's right...you got it!".

Motivation, attending and empathy were positive learning correlates with Group Two, Subject 2. Subject 2 was often slow in responding due to physical conditions (cerebral palsy) and at times seemed inattentive. However, Subject 2 was in fact attending and learning at a consistent rate (90-100% correct responding during the final week of training). Subject 2 responded with enthusiasm to the game and expressed pleasure as her graph indicating progress was drawn each day. She frequently expressed concern for others; if another player were sitting alone or seemed despondent, Subject 2 would frequently offer help and talk with the person. While this study has not addressed the

role of empathy in acquiring social skills, the characteristic was outstanding in Subject 2 and possibly related to her ability to respond correctly to social situations. In summary, if participants do not possess learning strategies, it would seem beneficial to address this issue before engaging in a training program.

Training Game. Another source of variability lies within the game situations presented. The game card situations were designed to provide verbal models for each social situation and thereby teach correct responses. Several of the situations demanded skills that were clearly verbal responses to social situations; however, in many instances, the response primarily called for a more complex skill, bringing into question the construct validity of the program. Was the construct of social skills being primarily addressed, or was the emphasis on some other construct such as role taking, problem solving, language ability or confrontiveness? Each subject would be daily presented with 12 game situations. Some of the situations demanded skills such as problem solving, role taking, and language skills not generally associated with this population. For example, Question 1 asks, "one of the other workers did very good on a hard job. What would you say?"; answer, "you did good on a hard job". Question 22 asks, "when you tell someone she did a good job, she should say..."; answer, "thank you".

Question 23 asks, "if someone liked the job you had done, he would say.."; answer, "you did a very good job". In each of these situations, role playing is necessary in order to predict what someone else should say or what you would say in a hypothetical situation. The repeated use of pronouns that change persons demanded complex verbal ability. Also, the similar wording of these three questions proved confusing to subjects. It is interesting to note that during the post test role play simulation, Question 1, "when someone does real good on a hard job, what should you say?" was asked. The answer is, "you did good on a hard job". However, each of the subjects answered "thank you".

Questionable construct validity is again demonstrated in Question 31. The majority of subjects consistently answered Question 31 incorrectly. The problem seemed associated with the excessive use of pronouns (even when the name of a co-worker was subsituted) and the hypothetical nature of the question. #31 asks, "While someone was gone from her work table, you borrowed one of her tools. What should you say when she comes back and you still need the tool?" Answer, "I borrowed your tool. I'll be done with it in a minute". Question 31 is categorized as "Politeness, Action". However, the question did not discriminate as a measure of that particular construct. The question then becomes, what is this item measuring? It would seem

probable that the item is actually measuring constructs such as verbal ability and role playing instead of politeness.

Some questions within a category were not ideal discriminators, being either excessively easy so that everyone answered correctly or excessively difficult so that a high percentage consistently answered incorrectly. The difficulty or ease of a question was associated with the abstract versus concrete nature of the question or the experience versus hypothetical nature of the question. For example, Question 31 (above) is in the category of Politeness, Action. Question 8 is in the same category but is much more concrete and experience based. Question 8 asks, "You are talking to your supervisor and you burp accidently. What should you say?" Answer, "excuse me, I didn't mean to burp". #8 was never missed whereas #31 was missed the majority of the time. Questions such as these were not adequate discriminators and lowered the validity of the results.

Another possible source of individual score variation was unequal categorical presentation during the game, which brings into question the content validity of the tool. For example, one player could be given three questions in the politeness category and none in criticism during a single game. (Categories such as politeness, social confrontation and criticism were the most difficult questions for the

subjects' to answer according to the given criteria.) A greater proportion of questions in these categories in one subject's game session could lower that subject's score considerably. Although individual subject scores could be lowered because of the distribution problem, an equal categorical distribution would be represented in that player's group score.

It would appear that an item analysis of the 48 questions would be beneficial with rewording of questions that are unclear or ambigious.

Habits and prior training resulted in the inability of some of the subjects to answer according to the Foxx and McMorrow (1983) criteria. For example, Foxx et al. criteria "do not permit the player to state that he or she would ignore the situation or refer it to someone else such as a workshop supervisor or staff member" (p. 13). The majority of players in the present study had been trained to "tell the supervisor" when confronted by a situation such as described in Questions 10, 16, 24, 25, 29, 30, 33, 34, 35, 37, and 47 (the majority of these questions involve criticism or social confrontation). It would seem that more training than is involved in the present program would be necessary in order to teach the assertive and confrontive skills involved in these questions.

In summary, several variables within the training game

itself added to the variability in scores. These variables include ambiguity in the items, questionable validity, and inappropriate item difficulty within categories. Also, the criteria for correct/incorrect answers presented a conflict with subjects' prior training in several items.

Generalization Across Conditions

Generalization of specific verbal responses was evaluated by pre and post role playing simulations (Appendix G). Group One and Group Two showed improvement from pre to post test (32% and 19.9% respectively). It should be noted that Group Two, Subject 1 became moody prior to assessment and initially refused to respond to the supervisor at all, thus lowering her score substantially (3.3% gain from pre to posttest) and resulting in a deflated score for Group Two. The relatively low percentage of correct posttest simulation answers for Group 2 (41%) as compared to Group 1 (65.6%) raises doubt about the generalization of verbal responses from pre to posttest as measured by a simulation evaluation. The conclusion may be tenatively drawn that the use of the natural setting and the actual supervisor do not affect the ability of the subjects to answer correctly in a simulation condition.

Verbal Responses and the Worksetting

Following the daily training games, each group was videotaped for approximately 15 minutes as they worked on a structured group task in their work setting. Two methods were used to evaluate the subjects' verbal responses as recorded on the video tape. (1) The researcher categorized and rated the verbal responding that occurred between subjects or between subjects and supervisor as "appropriate" or "inappropriate" according to the Foxx criteria (1983). (2) The researcher rated the subjects' verbal responses to supervisor questions as arranged on the Supervisor Interaction Sheet (Appendix F) as "correct" or "incorrect" according to the Foxx criteria. The supervisor asked each subject three questions from the Supervisor Interaction Sheet during each video taped work session. Prior to beginning work on the structured task, the subjects' were given job instructions by the supervisor and told that they could talk all they wanted, but it would be best to talk about work (Foxx et al., 1984). The appropriate verbal responses and the correct verbal responses were averaged together (Figure 3). Mean appropriate and correct responses indicate positive verbalization increased in the worksetting as the training program progressed. Although the means for each group improved from the baseline period through the

training period, the variations in data indicate the effect of factors other than training on verbal responding. The high point in Group 1 (Session 15) and Group 2 (Session 15) data, presented in Figure 3 are the result of a combination of appropriate responses as well as correct answers to supervisor questions. (This combination is evident by an inspection of Figure 5). In a similar but opposite manner, the low points in Group 1 (Session 12) and Group 2 (Session 14) are a result of a combination of inappropriate and incorrect responses on that day. Group One data will be discussed first.

In Group One, the correct responses to supervisor questions did not vary significantly on Session 12. However, the group appropriate responses did fall sharply that day (Figure 5). Examination of individual subject responses on that day (Figure 6) shows that subjects maintained their usual variation with the exception of Subject 2 who experienced a significant drop in appropriate responses (55% drop from mean). No outstanding changes occurred in the environment on that day; no significant changes occurred in the behavior of the other subjects. Behavior characteristics within the subject rather than peer interaction or job stimulated problems caused the drop in appropriate responding in this subject that reflected in group performance on Session 12.

Group 2 experienced a low of 28% (33% below mean) appropriate/correct responses (Figure 3) on Session 14. Correct answers to supervisor questions did not vary unusually on Session 14. However, appropriate responses dippped to a low of 34% (41% drop from mean). An inspection of Figure 6 shows that the individual correct responses of Subjects 1 and 2 did not vary greatly on that day; however, the appropriate responses did drop dramatically (49% and 50% respectively). Subject 1 and Subject 2 were engaged in teasing and various inappropriate behavior with Subject 3 who also experiences a 22% drop from mean in appropriate responding. The escalating inappropriate responses of Subjects 1 and 2 combined with that of Subject 3 led to a dramatic low in group verbal responding. An analysis of the data suggests the negative effect that subjects can have on each other. However, negative between subject influence is not seen in the Group One data. The Group One low day was due primarily to the unusually low rating of one subject that did not comparably affect the ratings of co-workers.

An inspection of the data (Figures 3, 4, 5 and 6) does not present a clear picture of improvement in verbal responses in the work setting as a result of the training games. While the correct responses to supervisor questions increased during the period of training, the appropriate verbal responses did not show consistent improvement (Figure

5). The variability in the data suggests that factors in the environment as well as inter-individual and intra-individual differences contributed to the inconsistent performance of subjects.

The lack of demonstrated improvement in appropriate verbal responses in the work setting is associated with three factors. The first factor is related to the event recording method used in the workshop evaluation. During the 15 minute period of observation if participants did little or no interacting, the data was dependent on a very limited sample. One or two events could change the percentages significantly thus adding to the variability in scores (Kazdin, 1982).

The second factor is related to the nature of the task in which the subjects were engaged during the daily observation period. The observation of verbal responses was done during a work period in which the subjects were engaged in a work task. When workers are busy with a job, the situation is not conducive to verbal interaction and socialization is not appropriate under such conditions. Also, the fact that the work task was generally within the skill range of the subjects contributed to a minimum of verbal interaction. During one observation, Group One, Subject 1 and 3 discussed the task with each other. Group Two, Subject 1 spoke to Subject 2 during several

observations concerning the task. However, verbal interaction did not occur regularly concerning the task. If the task had been more complex or had demanded consistent verbal interaction, the probability of demonstration of targeted skills in the work setting would have been enhanced. The manipulation of the environment (paper, staple, and envelope supply becoming depleted) presented occasion for question asking during each session. However, question asking and answering was a small component of assessed behavior and was already within the skill capability of each player. Thus, the manipulation of the environment made no significant difference in the appropriate responding of the subjects.

The third factor associated with the lack of appropriate verbal responses in the work setting is related to the method of training. Although the table game format encourages socialization because of close proxmity and similar focus of the players, the only actual verbalization that is demanded takes place between the facilitator and each player. However, the spontaneous verbalizations that were rated in the worksetting depended on appropriate interactions between the workers. A discrepancy exists between skill training requirements and skill demonstration requirements. Generalization would probably have improved if the workers had been given opportunity to interact

verbally with each other during the training sessions.

In summary, generalization of spontaneous verbal responses was not demonstrated in the work setting primarily due to three factors. The factors are associated with unreliability in the evaluation process utilized, the nature of the task, and discrepancies in the training and evaluation methods utilized.

Words per Response

Although words per response was not targeted in the training, it was considered to be a corollary measure reflecting the complexity of the subjects' responses. Words per response (wpr) from the game situations as well as from the pre and post simulation assessment will be discussed.

Game sessions. Group One's wpr gain of 28.3% across conditions indicates increased verbalization resulting from training. Group Two's wpr gain of 23.3% across conditions also indicates increased verbalization resulting from training. The conclusion may be tenatively drawn that complexity of responding increased slightly as a result of training.

Simulated assessments. Group One's mean wpr increase of 83% from pre to postassessment is a positive indication of increased verbalization resulting from training. Group Two's mean wpr increase of 19% from pre to postassessment is

less indicative of positive change. The failure of Group 2 to replicate the increases in wpr attained by Group 1 provides inconclusive evidence that complexity in verbalization occurred as measured by the simulated assessments. Given the slight increase in wpr demonstrated during the game sessions by Group One and Two (28.3% and 23.3% respectively), and the failure of Group 2 to exhibit substantial wpr gains from pre to postassessment, an increase in complexity of responses as a result of training was not conclusively demonstrated.

Overall Work Adjustment

The overall work behavior of each subject was evaluated by his/her respective supervisor (three supervisors, each evaluating two subjects). The Work Behavior Rating Scale (Shushan, 1972), a 13 item descriptive rating scale was utilized. The first nine items were most closely related to the skills addressed during the training program and will be discussed first. An inspection of Table 3 indicates that each of the subjects improved in the first nine categories with the exception of Subject 2, Group One who decreased from a pretest rating of 7 to a post rating of 3.1 (scale of 1-9) in the area of cooperation with supervisor. The remaining five subjects improved in all categories from pre to post rating. When considering the entire 13 items, all

of the subjects showed a positive change from pre to post rating.

Several limitations are associated with the use of the Work Behavior Rating Scale in this study. Because ratings depend on subjective judgements, various types of errors and biases are introduced (Brown, 1983; Gronlund, 1985)). The use of descriptive phrases in the Work Behavior Rating Scale helped relieve some of the subjectivity.

A limitation associated with the ratings of the supervisors is the expectancy factor. According to Campbell & Stanley (1966), the expectancy factor may affect the ratings of observers who are informed as to the subjects undergoing treatment. Each of the supervisors in the worksetting were aware that the subjects were involved in a training program, although the exact nature of the training was not known.

Another limitation involves the relatively short time period (40 days) between ratings which limited the behavior changes that might be observed. Given these limitations, the changes from pre to post rating present an estimate of the change in work behavior observed by the individual supervisors of each subject. The observations are positive with the exception of one category (cooperation with the supervisor) noted for Subject 2, Group One. Given this exception and within the limitations as listed, it may be

concluded that the overall workshop adjustment of the six subjects improved as a result of participation in the 12 training game sessions. It should also be noted that several informal supervisor comments suggested that changes in behavior had been noted following training. The noted changes included increased politeness in the worksetting, more positive attitude, and increased politeness in social activities outside of work. These comments suggest that overall adjustment improved in social situations other than work as well as in the worksetting.

Discussion of Replication

A comparison of the results of the replication study with those of Foxx et al. (1984) will be presented in the categories as stated in the hypotheses: (1) Verbal responses and the training game sessions; (2) Responses and the work setting; (3) Generalization across conditions; and (4) Words per response.

Training Game Sessions. When undertaking the replication study, the intervention (training game) was identical with that utilized by Foxx et al. (1984). The population was comparable in background, cognitive level and work experience. The primary planned alteration in the study was that of setting. Whereas the Foxx training games were conducted in a separate setting, the games in the

replication study were conducted in the work setting. The purpose of this change was to compare the efficacy of training in the work setting; is it possible to learn complex verbal responses in a noisy, distracting setting as opposed to a separate setting such as used by Foxx et al.? An inspection of data from the two studies indicates that comparable training game responses were made in the Foxx study and the replication study. However, a greater degree of variation is present in the group and individual data of the replication study indicating a less consistent effect of training. Although individual subject game responses are not presented for the Foxx study, a more stable trend as well as less variation is indicated in the group data. Individual responses in the replication study (Figure 2) show a great deal of variability. Training in the natural environment with the associated distractions and noise contributed to the score instability found in the replication study (as detailed in a previous section). In summary, responses were learned in the work setting, but the distractions and noise were disadvantages for some subjects. The question remains whether the disadvantages of training in the work setting were compensated for by the advantage of generalization facilitation.

Responses in the work setting. An inspection of the data (Figure 3, 4, 5, and 6) does not support the conclusion that

game training in the work setting enhanced or facilitated generalization of learned verbal responses in the work environment. Group, as well as individual responses varied considerably during the training period. An inspection of the work session verbal responses in the replication study (Figure 5) shows no appreciable change in mean from the baseline to training condition. The Foxx et al. study showed an improvement in responses in the work setting from baseline condition to training. However, the variability in data prevented positive conclusions. Similarly, positive conclusions may not be drawn from the replication study concerning the generalization of verbal responses in the work setting.

Generalization Across Conditions. The Group One and Group Two mean pre to post simulation gains in the replication study (32% and 26% respectively) are comparable with those reported by Foxx (29.8% and 21.7% respectively). The Group One mean postassessment correct scores from the Foxx study (63.2%) and the replication study (65.5%) are comparable. However, the Group Two mean scores of the replication study (41%) are considerably lower than Group Two of the Foxx study (62.2%). The lowered Group Two score of the replication study places limits on positive conclusions concerning the ability of this population to generalize across conditions. The conclusion may also be tenatively

drawn that the use of the natural setting and the actual supervisor do not affect the ability of the subjects to answer correctly in a simulation condition. The advantages of the natural setting are also accompanied by the disadvantages of noise and distraction. The advantage of the actual supervisor may be counterbalanced by the novelty effect of a previously unknown supervisor confederate as used by Foxx et al.

Words per response. Words per response (wpr) will be discussed relative to the game responses as well as to the simulation assessments. Game responses will be discussed first. The Foxx et al. (1984) Group One and Group Two reported gains in wpr across conditions (81.3% and 10.4% respectively) represent a greater range than reported in the replication study groups (28.2% and 23.3% respectively). The wide range reported in the Foxx data indicates that factors other than training affected the wpr acquisition. The modest increases reported in the replication study, in addition to the wide range noted in the Foxx study, place limitations on conclusions concerning increased wpr acquisition as demonstrated in the game situations.

The Foxx study Group One wpr increased 64% from pre to postassessment while Group Two increased 74%. Group One of the replication study increased 83% in wpr from pre to postassessment and Group Two increased 19%. The increases

of Group One of both studies and Group Two of the Foxx study in wpr are comparable and represent positive corrolates of training. However, the relatively stable pre to post assessment scores of Group Two of the replication study places cautions on positive conclusions concerning wpr increase across simulations; the added consideration of the Foxx study Group One and Group Two wide range in wpr increase across conditions (81.3% and 10.4% respectively) increases caution. The conclusion that wpr increase as a result of the training sessions may be tenatively stated within the limitations as indicated.

Limitations

Several limitations are associated with the replication study. First, the population focus of this study was limited to four women and two men with ages ranging from 25 to 49 and IQ ranging from 46 to 57, which places limitations on the generalizations that may be drawn.

The sample involved in the study worked closely together in a vocational setting. The close proximity of the workers to each other is a limitation in the multiple baseline design. Behavior change in one worker might have an effect on his/her peers thus obscuring changes that are a result of the intervention (Komaki, 1977).

Assessment of generalization of targeted skills into

the work setting involved counting correct responses and event recording. The simplicity of this procedure is an advantage while the fragmentary picture presented is a limitation (Barlow, Hersen & Schloss, 1982).

A further limitation related to evaluation is associated with the pre and post vocational adjustment rated by the work supervisors. The supervisors were aware of which individuals were involved in the training program and also had a general awareness of the objectives of the training. According to Campbell and Stanley (1966), "If the measurement procedure involves the judgements of human observers who are aware of the exprimental plan, pseudo confirmation of the hypothesis can occur as a result of the observer's expectations" (p. 41). The observational evaluations by the workshop supervisors is an estimate of the pre and post work adjustment of the subjects and should be interpreted within the limitations as stated.

Unexpected changes occurred during the period of time when the experiment was being conducted. The setting changed as people were being prepared to move into industrial work sites. Staff members left and also supervisory changes occurred. Several instances occurred when training times and places had to be temporarily shifted in order to comply with the work schedules of the subjects. These changes introduced variables into the study that could

have produced changes in behavior unrelated to the intervention. These changes or variables are inherent in most work environments, and in that sense, were not unusual or unexpected.

The replication study would have been strengthened if a follow-up study could have been implemented. However, due to the movement of subjects from the sheltered work environment where the study took place into industrial work sites, a follow-up study was not possible.

Implications

The results of this replication study have implications for training of the population represented in the sample as well for future research. Given the small sample size and design limits, the implications should be considered with caution.

Implications will be discussed within the following three categories: the training program, the sample and the environment.

The training program. Researchers in the vocational rehabilitation field agree that training in social skills is needed as adults with retardation move from the restricted sheltered workshop environments into normalized work settings (Mattson, Senatore & Kazdin, 1982; Schloss & Schloss, 1982). However, as the Foxx et al. (1984) study and

the replication study have found, trained skills do not readily generalize into the work setting where stimuli and cues are different. The question is raised as to whether training for social interactions is possible when cues, conditions and incidents are frequently unpredictable. The results of the replication study indicated that predictable social skill responses (such as "thank you", "excuse me", "hello, how are you") are generally learned quickly. However, the more complex social interactions demand expertise and consequently training in skills such as confrontiveness, assertiveness, role taking and problem solving. The implied solution seems to involve programming that combines identifying deficit areas as well as addressing specific behavioral objectives. This approach, combined with a task analysis of the skill and indepth assessment of the learner, could possibly lead to a positive match.

The second implication involves personal stategies that seem to be closely associated with changes in behavior. Group 1, Subject 1 was observed throughout the study involved in the process of active rehearsal. Although not part of the program, the spontaneous rehearsing of facilitator modeled correct answers to the game situations was part of this subjects's learning strategy. The majority of the subjects did not have obvious learning strategies and

did not make the degree of progress in training as Subject 1. In any group instruction, a wide variety of educational backgrounds will be represented; therefore, in order to ensure development of learning strategies where none exist, such a component should be built into the program. Observation of Student 1 would imply that inclusion of a rehearsal component into the program would facilitate learning. The expectation of a social skills program is that people would learn to talk and interact appropriately with others; therefore, the program would be more relevant if the structure demanded intersubject conversation in the form of rehearsal.

The third implication to be discussed within the program section is associated with the issue of individuality presented in the previous paragraph. Each subject included in the replication study had been recommended by his/her supervisor primarily because of social deficiency. Although each subject did possess social deficits, individual problems were unique and often not addressed within the confines of the training program. The ideal situation would seem to be a tailored social skills training program for each subject. The problem becomes how to meet individual needs in a program that, for optimum conditions, requires interaction with peers. The implied solution would seem to involve offering a variety of

strategies or teaching techniques allowing all subjects exposure to each strategy or emphasizing certain strategies for individuals.

A final implication within the program category is that the participants in a program should be compatible. One of the stated objectives (Foxx et al., 1982) of the program addressed in this study is that the subjects playing the training game should have fun. When training in a group situation, and particularily when addressing social interaction skills, controllable environmental variables should facilitate such interaction. People with a history of socially inappropriate interactions, as demonstrated by Group One, Subject 3 and Group Two, Subject 3 of the replication study, should not be trained in the same group or in the same immediate environment.

Subjects. Participation in a training program implies deficiency in some identified skill. The program in the replication study purported to address social deficits of a small sample of a given population. However, as the program progressed, it became evident that the classification of social deficiency was not sufficient as a criterion for participation in the program. It became apparent that social deficits were not the primary reason for one subject's inappropriate behavior. This subject's behavior was primarily related to emotional disorders demonstrated by

fantasy and wide mood changes. The benefit derived from the program by this subject was questionable. The implication may be drawn that a program designed to teach social skills will not necessarily be appropriate for a person based solely on the criteria of social deficits. The importance of carefully matching a person's needs with the goals of the training program is evident.

Following a discussion of the subject for whom the training program was not helpful, the question becomes who did benefit from the table game training format? Group One, Subject 1 and 2 as well as Group Two, Subject 2 made the most progress during the training program as evidenced by increase in correct responses to the game situations, increase in correct responses from pre to post test and increased use of words per response. These subjects had several common traits. First, each of them enjoyed playing the game, keeping score, winning a check mark and receiving a snack following the game. Group One, Subject 2 was especially competitive and answering correctly was important to him. Group Two, Subject 2 derived a great deal of pleasure from doing well and marking her improvement on her player's graph. Group One, Subject 1 enjoyed the entire process and was the player who made the most progress. Each of these players listened to the facilitator as well as to each other and would become upset with the players who

caused disruptions. Although it is difficult to know personality variables prior to beginning a training program, the players most likely to benefit from the table game format training program are those who will listen, who enjoy competition and display motivation. Group One, Subject 2 displayed behavior problems in the work setting when not involved in game situations. However, negative behavior was not shown during game sessions and progress in responding correctly was attained. Behavior problems do not indicate that a subject is inappropriate for training with the table game.

Environment. A final implication to be drawn from this replication study involves the environment to which the skill is expected to generalize. In order for any trained skill to be used in a natural environment, the skill must be appropriate for and valued in that environment. The skill must be socially valid (Wolf, 1979; Kazdin, 1983). The targeted skills of this program did not generalize into the natural setting as expected. One possible reason is that many of the learned responses were generally inappropriate to use when engaged in a work task. Social interaction is usually not necessary and not valued when engaged in a work task. At that particular time in that particular setting, value is placed on work production which is generally an antithesis to social interaction.

An associated implication involves the question of whether social skills training in a sheltered work environment can produce generalizable changes in behavior. In order to be socially valid, the training program must address skills that are used or valued in the environment in which the trainee normally functions (Wolf, 1979). Vocational rehabilitation personnel generally agree that work adjustment and the associated vocational/social skills are deficient in many workers with retardation (Matson, 1980; Roessler, 1983). Social skills training should become more socially valid as workers with retardation move into normalized work environments.

Conclusions

In order to perform the required task of generalization of verbal responses into the work setting, the subject was required to master a variety of skills: (1) learn the verbal response which in a majority of cases involved advanced skills such as role taking; (2) demonstrate stimulus generalization; (3) demonstrate response generalization (Kazdin, 1984). Inspection of the data from this study shows that while 66% of the subjects learned approximately 80% of the responses, consistency in correct or appropriate responding was not demonstrated uniformly even among these 4 subjects. A comparison of the grouped data generated from

the study reported here with that of Foxx et al. (1984) confirms that both studies were effective in teaching verbal skills. However, the Foxx data indicated a more consistent effect of training. This difference leads to the supposition that training verbal responses in the work setting is not as efficient as training in a separate setting. The study reported here, as well as the original study, failed to present clear evidence of generalization to the natural setting. The inconsistent responding revealed in the data of the replication study combined with the lack of evidence that generalization was facilitated by training in the natural setting leads to the conclusion that training for specific verbal responses in the natural environment was not more effective than training in a separate setting. While many variables contributed to this conclusion, the most obvious was that distraction in the worksetting, primarily associated with the behavior of two subjects, possibly affected learning consistency and inhibited appropriate responding in the work setting. The evidence from the two studies indicates that a quiet setting is important when learning verbal responses and performing the skills required in the game.

The fact that the learned skills did not clearly generalize to the work setting in the Foxx study or the replication study leads to the conclusion that (1) more

intense training that provides subjects opportunity to respond in a manner similar to that required in the natural environment is needed; (2) training objectives should consistently address constructs that are critical to the vocational success of the worker; (3) training methods should be closely matched to the individual strengths and deficits of each subject; (4) generalization should be approached in a more controlled fashion.

Each of the four conclusions listed above will be briefly discussed in relation to the literature reviewed in Chapter II. Miller and Schloss (1982), when discussing the critical components of a behaviorally oriented training program include behavioral rehearsal and feedback. According to Miller et al., behavioral rehearsal involves "the practicing of low-frequency behaviors under conditions that are naturally associated with the desired behaviors" (p. 255). Behavioral rehearsal allows opportunity for the targeted behavior to occur with sufficient frequency for reinforcement to occur. Senatore, Matson and Kazdin (1982) also demonstrated the importance of including a behavioral rehearsal component in training. Senatore et al. compared the effectiveness a traditional "package" treatment involving role playing, modeling, instruction, performance feedback and reinforcement with the "package" plus active rehearsal in training 12 mentally retarded adults in verbal

responding skills. The group that included active rehearsal was significantly higher in social skills than the other group as measured by posttraining evaluations. The results of this replication study indicate that a more intense training program is demanded if the verbal responses are to be learned consistently. The inclusion of a behavioral rehearsal component during the training process should prove beneficial in this regard.

The replication study has demonstrated the importance of consistent program objectives that address constructs relevant to the stated purpose of the program. The range of constructs addressed within "Stacking the Deck, A Social Skills Game for Retarded Adults" (Foxx & McMorrow, 1983) contributed to inconsistency in responding behavior of the subjects. The constructs of problem solving, role taking and language ability were addressed more directly than verbal responses relevant to the work setting in many of the game situations. The research of Ostby (1982) and Ostby, Butler and Glenberg (1984) indicates the importance of a construct such as problem solving when training the mentally retarded worker in social skills. However, if the stated purpose of the program is to develop verbal responses relevant to the work setting, the emphasis of the program should remain within the stated confines.

The literature review presented in Chapter II indicated

that the majority of client related problems leading to job termination centered about issues with the supervisor such as accepting criticism and issues with co-workers such as teasing or provoking (Cheny & Foss, 1984; Peckham, 1951; Rosen & Hoffman, 1974). If the training program utilized in this study had consistently addressed verbal responding behavior within these categories of deficits as revealed by research, the effectiveness of the training would be increased. A careful match between training objectives, observed deficits of the targeted population, and researched needs of retarded workers should lead to more positive results of training.

The demonstration of social skills generalization in the natural setting is difficult because of the numerous uncontrollable variables in the environment (Bates, 1980), Berler, Gross & Drabman). The generalization assessment of the Foxx et al. (1984) study was conducted in a relatively controlled environment (sheltered workshop). However, the Foxx study did not establish a relationship between the training program and appropriate verbal responding in the work setting. The generalization assessment of the replication study was conducted in a relatively uncontrolled environment. Although the environment was sheltered in the sense that employees' were developmentally disabled, many of the variables that are associated with an industrial work

site were present. Work received the primary emphasis and the training program was built around the schedule of the workers which varied according to the demands of their particular job. The closing of the original setting is one evidence of the changes that were occurring as the employees' were being prepared for work at industrial sites in the near future. While these variables may have contributed to inconsistency in the data during the study, they are typical of work in a normalized setting and added validity to the conclusions.

Demonstration of social skills generalization is possible in simulated evaluations as evidenced in the replication study, the original study (Foxx et al.) and studies cited in Chapter II (Bates, 1980; Eisler, Hersen, Miller and Blanchard, 1975). However, the failure of attempts to conclusively provide evidence of generalization in the natural setting as demonstrated in the replication study as well as other studies (Bates, 1980; Fox et al., 1984) suggests that innovative methods of assessing generalization are needed. Foxx et al. recognize that creativity will be needed in the future in order to conduct long-term generalization assessments in the natural setting.

Future research

It was expected that training in the environment to which the skills are expected to generalize would present one less condition for the subject to overcome, thereby enhancing the process of generalization. However, the disadvantages of such training may obscure the advantages as was found in this replication study. Future research is needed to delineate those social skills that could be advantageously addressed in the natural setting. The research cited in Chapter II focuses on the needs of the worker and the requirements of industry (Cheny and Foss, 1984; Kolstoe, 1961; Levine and Eizey, 1968). However, given this information, the question remains as to which of the skill deficits could be addressed to advantage in the natural setting. Observation of verbal responses during this study indicate that game situations that were specific to that particular setting and that particular subject were the most useful. Research is needed in order to develop programs that could be adapted to a particular setting and population.

Future research is needed in order to refine the classification of social skills required in the work setting. Research cited in Chapter II such as the Cheny and Foss (1984) "Social Behavior Domains Relevant to Job Tenure

for the Adult with Retardation" (Table 1) are useful as categories of skill deficits. However, the identified domains such as "Problems with supervisor" and the subtopics such as "Accepting criticism or correction" or "Requesting assistance" are quite broad and require levels of competency within the subtopic. A taxonomy or hierarchical listing of skills required within each of the domains and subtopics would be useful to the trainer as s(he) attempts to match the objectives of a program with the skill level of the subject.

Future research is also needed in order to develop comprehensive approaches to social skills training offering a range of teaching methods as well as objectives within a program(s). This study did not succeed in teaching verbal responses needed in the work setting to each subject. The individual differences within the classification of mild and moderate retardation were so profound that the table game format was not adequate to address unique needs. It is questionable whether any packaged program with the objective of remediating social skills deficits in this varied a population will be sufficient unless multilevel adaptations are possible. Research is needed in this area of programming.

Two of the subjects who participated in the replication study have lived at home with family all of their lives.

The other four subjects have histories of institutionalization and group home residences with one subject now living in a supervised apartment. The two subjects living at home (Group One, Subject 1 and Group Two, Subject 2) attained the highest percentage of correct responses during the game training sessions (both near 90% by the end of training). Both of these people possessed traits that facilitated learning, such as empathy, motivation and enthusiasm. The question of the role of environment in relation to the ability of persons with retardation to learn responses to social situations becomes evident. The impact of environment upon ability to interpret and respond to social situations is an area for future research.

REFERENCES

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Barlow, D. W., & Hersen, M. (1984). Single case experimental designs (2nd ed.). New York: Pergamon Press.

Bates, P. (1980). The effectiveness of interpersonal skills training on the social skill acquisition of moderately and mildly retarded adults. Journal of Applied Behavior Analysis, 13, 237-248.

Baumeister, A. A. (1967). Learning abilities of the mentally retarded. In A. A. Baumeister, Mental retardation, (pp.181-211), Aldine Publishing Co.

Berler, E. S., Gross, A. M. & Drabman, A. S. (1982). Social skills training with children: Proceed with caution. Journal of Applied Behavior Analysis, 15, 41-53.

Bernstein, G. S. (1981). Research issues in training interpersonal skills for the mentally retarded. Education and Training of the Mentally Retarded, 16, 70-74

Birnbrauer, J. S., Peterson, C. R., & Solnick, J. W. (1974). Design and interpretation of studies of single subjects. American Journal of Mental Deficiency, 79, 191-202.

Bitter, J. A. (1979). Introduction to rehabilitation. St. Louis: C.V. Mosby. Bowe, F. G. (1980). An overview paper on civil rights issues of handicapped americans: Public policy implications. In a consultation sponsored by the U. S. Commission on Civil Rights, Washington, DC. Civil rights issues of handicapped Americans: Public policy implications (pp. 7-31).

Brody, G. H. & Stoneman, Z. (1977). Social competencies in the developmentally disabled: Some suggestions for research and training. Mental Retardation, 15, 41-43.

Brown, F. G. (1983). Principles of educational and psychological testing. New York: Holt, Rinehart and Winston.

Bruch, M. A., Kunce, J. T., Thelen, M. H. & Akamatsa, T. J. N. (1973). Modeling, behavior change, and

rehabilitation. Columbus: University of Missouri. (NTIS No. PB-236 605).

Campbell, D. T. & Stanley, J. C. (1966). Experimental and quasi-experimental designs for research. Chicago: Rand McNally & Co.

Cheny, D. & Foss, G. (1984). An examination of the social behavior of the mentally retarded workers. Education and Training of the Mentally Retarded, 19, 216-221.

Cobb, H. V. (1969). The predictive assessment of the adult retarded for social and vocational adjustment. Vermillion, SD: University of South Dakota.

Cobb, H. V. (1972). The forecast of fulfillment. New York: Teachers College Press.

Connis, R. T. (1979). The effects of sequential picture cues, self-recording and praise on the job task sequencing of retarded adults. Journal of Applied Behavior Analysis, 12, 355-361.

Connis, R. T., Sowers, J., Hudson, C., Thompson, L. E. & Dwiness, M. A. (1981). Employment skills. In R. T. Connis, J. A. Sowers & L. E. Thompson (Eds.), Training the mentally handicapped for employment (p. 18). New York: Human Sciences Press, Inc.

Cooke, T. P., Applloni, T. (1976). Developing positive social-emotional behaviors: a study of training and generalization effects. Journal of Applied Behavior Analysis, 9, 65-78.

Cull, J. G. & Hardy, R. E. (1973). Adjustment to work. Springfield, IL: Charles C. Thomas.

Days, D. S. III. (1980). Equal employment opportunity for the handicapped. A consultation sponsored by the U. S. Commission on Civil Rights. In Civil rights issues of handicapped Americans: Public policy implications (pp. 68-84).

DeRoo, W. M. & Haralson, H. L. (1971). Increasing workshop production through self-visualization on videotape. Mental Retardation, 9, 22-25.

Dinger, J. C. (1961). Post-school adjustment of former educable retarded pupils. Exceptional Children, 27, 353-360.

Dominowski, R. L. (1980). Research methods. Englewood Cliffs, NJ: Prentice Hall, Inc.

Eagle, E. (1978). Prognosis and outcome of community placement of institutionlized retardates. American Journal of Mental Deficiency, 72, 232 - 243.

Ehlers, W. H., Prothero, J. C. & Langone, J. (1982). Mental retardation and other developmental disabilities. Columbus: Charles E. Merrill.

Fernald, W. E. (1915). The burden of feeble-mindedness. Journal of Psycho Asthenics, 17, 87-111.

Fernald, W. E. (1919). After-care study of the patients discharged from Waverly for a period of twenty-five years. Ungraded, V, 25-31.

Flanders, J. F. (1968). A review of research on imitative behavior. Psychological Bulletin, 69, 316-337.

Foley, R. W. (1924). A study of the patients discharged from the Rome State School for the twenty year period ending December 31, 1924. Journal of Psycho-asthenics, 34, 180-207.

Foss, G. & Peterson, S. L. (1981). Social-interpersonal skills relevant to job tenure for mentally retarded adults. Mental Retardation, 19, 103-106.

Foxx, R. M. & McMorrow, J. M. (1983). Stacking the deck. Champaing, IL: Research Press.

Foxx, R. M., McMorrow, J. M. & Mennemeier, M. (1984). Teaching social/vocational skills to retarded adults with a modified table game: An analysis of generalization. Journal of Applied Behavior Analysis, 17, 343-352.

Foxx, R. M., McMorrow, J. M. & Schloss, C. N. (1983). Stacking the deck: Teaching social skills to retarded adults with a modified table game. Journal of Applied Behavior Analysis, 17, 343-352.

Frederiksen, L. W., Jenkins, J. O., Foy, D. W. & Eisler, R. M. (1976). Social-skills training to modify abusive verbal outbursts in adults. Journal of Applied Behavior Analysis, 9, 117-125.

Francescani, C. (1982). MARC: An affective curriculum for emotionally disturbed adolescents. Teaching Exceptional Children, 14, 217-222.

Gibson, F. W., Jr., Lawrence, P. S. & Nelson, R. O. (1976). Comparison of three training procedures for teaching social responses to developmentally disabled adults. American Journal of Mental Deficiency, 81, 379-387

Goldsmith, J. B. & McFall, R. M. (1975). Development and evaluation of an interpersonal skill-training program for psychiatric inpatients. Journal of Abnormal Psychology, 84, 51-58.

Goldstein, H. (1964). Social and occupational adjustment. In H. A. Stevens and R. Heber (Eds.). Mental retardation. Chicago, IL: University of Chicago Press.

Goodall, P. A., Wehman, P. & Cleveland, P. (1982). Job placement for mentally retarded individuals. Journal of Rehabilitation, 14, 46-56.

Gronlund, N. E. (1985). Measurment and evalutation in teaching (5th ed.). New York: MacMillan Publishing Company.

Hadley, F. P. (1982). Hiring issues and job placement. In T. F. Harrington, Handbook of career planning for special needs students, (pp. 68-75), Rockville, MD: Aspen Systems Corp.

Hasazi, S. B., Gordon, L. R., & Roe, C. A. (1985). Factors associated with the employment status of handicapped youth exiting high school from 1979 to 1983. Exceptional Children, 51, 455-469.

Hill, J. W., Hill, M., Wehman, P. & Goodall, P. (1980). Differential reasons for job separation of previously employed mentally retarded persons across measured intelligence levels. Unpublished manuscript, Virginia Comonwealth University, Richmond.

Kazdin, A. E. (1982). Single case research design. New York: Oxford University Press.

Kazdin, A. E. (1984). Behavior modification in applied settings. Homewood, ILL: The Dorsey Press.

Kennedy, R. J. R. (1962). A Connecticut community revisited: A study of thesocial adjustment of a group of

mentally deficient adults in 1948 and 1960. Project No. 655, Office of Vocational Rehabilitation, Department of Health, Education and Welfare.

Kolstoe, O. P. (1961). An examination of some characteristics which descriminate between employed and non-employed mentally retarded males. American Journal of Mental Deficiency, 66, 472-482.

Komaki, J. (1977). Alternative evaluation strategies in work settings; reversal and multiple-baseline designs. Journal of Organizational Behavior Management, 1, 53-77.

Krantz, G. (1971). Critical vocational behaviors. Journal of Rehabilitation, 14, 14-16.

Kratochwill, T. R. (1978). Single subject research. New York: Academic Press.

Levine, S. & Elzey, F. F. (1968). Factor analysis of the San Francisco Vocational Competency Scale. American Journal of Mental Deficiency, 73, 509-513.

Matson, J. L. (1980). Acquisition of social skills by mentally retarded adult training assistants. Journal of Mental Deficiency Research, 24, 129-135.

Matson, J. L., Machetti, A., & Adkins, J. N. 1980. A comparison of operant and independence training procedures for mentally retarded adults. American Journal of Mental Deficiency, 84, 487-494.

Matson, J. L. & McCartney, J. R. (1984). Handbook of behavior modification with the mentally retarded. New York: Plenum Press.

Matson, J. L. & Senatore, V. (1981). A comparison of traditional psychotherapy and social skills Ttraining for improving interpersonal functioning of mentally retarded adults. Behavior Therapy, 12, 383-399.

McFall, R. M. (1982). A review and reformulation of the concept of social skills. Behavioral Assessment, 4, 1-33.

Mercer, J. (1970) Sociological perspectives on mild mental retardation. In C. Haywood (Ed.), Socio-cultural aspects of mental retardation. New York: Appleton Century-Crofts.

Mickler, M. J. (1984). Self-management skill training for educable mentally retarded persons. The Journal of Special Education, 18, 143-148.

Miller, S. R. & Schloss, P. J. (1982). Career--vocational education for handicapped youth. Rockville, MD: Aspen Systems Corporation.

Moss, J. H. (1979). Post secondary vocational education for mentally retarded adults. Reston, VA: Council for Exceptional Children. ERIC Document Reproduction Services No. ED 188 379.

Nelson, R. & Gibson, F., Jr., & Cutting, D. S. (1973). Video- taped modeling: The development of three appropriate social in a mildly retarded child. Mental Retardation, 11, 24-28.

Neufeldt, A. M. (1978). Comprehensive vocation service systems for mentally retarded people--definition, principles and issues. In Vocational rehabilitation of the mentally retarded. Geneva: Internal Labour Office.

Neuhaus, E. C. (1967). Training the mentally retarded for competitive employment. Exceptional Children, 34, 625-628.

O'leary, S. G. & Dubey, D. R. (1979). Applications of self-control procedures by children: A review. Journal of Applied Behavior Analysis, 12, 449-465.

Ollendick, T. H. & Hersen, M. (1979. Social; skills training for juvenile delinquents. Behavior Research and Therapy, 17, 547-554.

Ostby, S. S. (1982). Social problem-solving training with mildly retarded individuals. Dissertation Abstracts International, 43, 2320. (University Microfilm No. 8215954). (Doctoral dissertation, University of Wisconsin-Madison, 1982).

Ostby, S. S., Butler, A. J. & Glenberg, D. (1984). Assessment of social problem-solving skills in mental retardation. Vocational Evaluation and Work Adjustment Bulletin,Spring 1984, 9-13.

Peckham, R. A. (1951). Problems in job adjustment of the mentally etarded. American Journal Mental Deficiency, 56, 448-453.

Rehabilitation Research Training Center (1985). Professional terms. Richmond, VA: Virginia Commonwealth University.

Roessler, R. T. (1983). Implications of social skill theory for enhancing vocational adjustment. Vocational Evaluation And Work Adjustment Bulletin, 18, 130-135.

Roessler, R. T. & Bolton, B. (1985). The work personality profile: An experimental rating instrument for assessing job maintenance skills. Vocational Evaluation and Work Adjustment Bulletin, 24, 8-11.

Rosen, M. & Hoffman, M. (1974). An inventory of inappropriate behavior. The Training School Bulletin, 71, 179-187.

Schloss, P. J. & Schloss, C. N. (1982). Social skills training in the vocational rehabilitation of mentally retarded individuals. Vocational Evaluation and Work Adjustment Bulletin,15, 142-146.

Schumaker, J. B. & Hazen, J. S. (1984). Social skills assessment and training for the learning disabled: Who's on first and what's on second? Part II. Journal of Learning Disabilities, 17, 492-499.

Sellin, D. F. (1979). Mental retardation: nature, needs, and advocacy. Boston: Allyn and Bacon.

Senatore, V., Matson, J. L. & Kazdin, A. E. (1982). A comparison of behavioral methods to train social skills to mentally retarded adults. Behavior Therapy, 13, 313-323.

Sparks, H. L. & Younie, W. J. (1969). Adult adjustment of the mentally retarded: Implications for teacher education. Exceptional Children, 36, 13-18.

Spence, S. H. & Marzillier, J. S. (1978). With adolescent male offenders: Social skills training, short-term effects. Behavior Research and Therapy, 17, 6-16.

Stabler, E. M. (1974). Follow-up study of retarded clients from a training workshop. Mental Retardation, 12, 7-9.

Stacy, D., Doleys, D. M & Malcolm R. (1979). Effects of social-skills training in a community-based program. American Journal of Mental Deficiency, 84, 159-164.

Stanfield, J. S. (1973). Graduation: What happens to the retarded child when he grows up? Exceptional Children, 39, 548-552.

Thorensen, C. E. (1974). Intensive experimental research in counseling. Journal of Counseling Psychology, 21, 553-559.

Turner, S. M., Hersen, M. & Bellack, A. S. (1978). Social skill training to teach prosocial behaviors in an organically impaired and retarded patient. Behavior Therapy and Experimental Psychology, 9, 253-258.

Walls, R. T., Werner, T. J. & Zane, T. (1979). The vocational behavior checklist. Dunbar, WV: West Virginia Research and Training Center.

Wehman, P. (1978). Toward a social skill curriculum for developmentally disabled clients in vocational settings. In O. C. Karan, P. Wehman, A. Renzaglia & R. Schutz (Eds.), Habilitation practices with the severely developmentally disabled, Vol. 1 (pp. 116-133). Madison, WI: University of Wisconsin.

Wehman, P. (1981). Competitive employment. Baltimore: Paul H. Brookes.

White, W. J. & Wimmer, B. D. (1982). The cognitively impaired. In T. F. Harrington (Ed.), Handbook of career planning for special needs students (pp. 105-128). Rockville, MD: Aspen Systems Corp.

Wolf, M. M. (1978). Social validity: The case for subjective measurement or how applied behavior anyalysis is finding its heart. Journal of Applied Behavior Analysis, 11, 203-214.

Wolfensberger, W. (1969). A new approach to decision-making in human management services. In R. B. Kugel & W. Wolfensberger (Eds.), Changing patterns in residential services for the mentally retarded (pp. 369-372). Washington, DC: President's Committee on Retardation.

Wolfensberger, W. (1980). The definition of normalization. In R. J. Flynn & K. E. Nitsch (eds.), Normalization, social integration and community services (pp. 71-116). Baltimore: University Park Press.

Younie, W. J. & Sparks, H. L. (1969). Adult adjustment of the mentally retarded: Implications for teacher

training. Exceptional Children, 36, 13-18.

Zisfein, L. & Rosen, M. (1973). Personal adjustment training: A group counseling program for institutionalized retarded persons. Mental Retardation, 9, 16-20.

Zohn, C. J. & Bornstein, P. H. (1980). Self monitoring of work performance with mentally retarded adults: Effects upon work productivity, work quality and on-task behavior. Mental Retardation, 18, 19-25.

APPENDICES

APPENDIX A

Reasons For Job Separation of Previously Employed Mentally Retarded Persons
N=107

CAUSES OF SEPARATIONS	N	PERCENT	MEAN I. Q.
I. INTERNAL CLIENT SKILL DEFICITS			
1. Low Quality Work	6	5.6%	52.00
2. Too Slow in Work	5	4.6%	56.80
3. Needed Too Much Supervision	4	3.7%	55.00
TOTAL CLIENT SKILL DEFICITS	15	14%	54.6
II. INTERNAL CLIENT ATTITUDINAL/PROBLEMS			
1. Chose to Take Non-Medical Leave	2	1.8%	68.50
2. Does Not Want to Work	7	6.5%	61.57
3. Does Not "Try"	5	4.6%	58.00
4. Poor Attendance/Tardiness	9	8.4%	52.78
5. Theft	5	4.6%	58.00
TOTAL CLIENT ATTITUDINAL PROBLEMS	28	26.1%	59.77
III. CLIENT INTERFERING BEHAVIOR			
1. Insubordinate/Aggressive	5	4.6%	47.60
2. Aberrant Behavior	6	5.6%	53.33
TOTAL CLIENT INTERFERING BEHAVIOR	11	10.2%	50.46
* TOTAL INTERNAL (CLIENT-RELATED) CAUSES	54	50.40%	54.94*
IV. EXTERNAL ECONOMIC LAY-OFFS			
1. Legitimate Lay-Off	10	9.3%	50.20
2. Seasonal Lay-Off, Can Return	4	3.7%	45.25
TOTAL EXTERNAL ECONOMIC LAY-OFFS	14	13%	47.72
V. EXTERNAL PARENTAL INTERFERENCE			
1. Resigned Due to Parental Pressure	9	8.4%	51.00
TOTAL PARENTAL INTERFERENCE	9	8.4%	51.00

Note: From "Differential Reasons for Job Separation of Previously Employed Mentally Retarded Persons Across Measured Intelligence Levels" by P. Goodall, J. W. Hill, M. Hill, and P. Wehman, 1985, Rehabilitation Research and Training Center, p. 16.

Reasons For Job Separation of Previously Employed
Mentally Retarded Persons
N=107

	CAUSES OF SEPARATIONS	N	PERCENT	MEAN I. Q.
VI.	EXTERNAL SOCIAL-CONTEXTUAL REACTIONS			
	1. Supervisor/Coworkers "Uncomfortable" With Client	13	12.1%	49.00
	2. Seasonal Lay-Off, Cannot Return	4	3.7%	50.50
	3. Appearance Not Appropriate For Setting	2	1.8%	43.00
	TOTAL EXTERNAL SOCIAL-CONTEXTUAL REACTIONS	19	17.7%	47.5
VII.	OTHER EXTERNAL CAUSES			
	1. Family Moved	2	1.8%	42.00
	2. Medical Leave	2	1.8%	42.00
	3. Financial Aid Interference	1	.93%	43.00
	4. Placed in Better Job	5	4.6%	47.4
	5. Transportation Problems	1	.93%	49.00
	TOTAL OTHER EXTERNAL CAUSES	11	10.10%	44.68
*	TOTAL EXTERNAL (ENVIRONMENTAL) CAUSES	53	49.50%	47.72*
*	TOTAL INTERNAL (CLIENT-RELATED) CAUSES FROM ABOVE)	54	50.40%	54.94*

*p < .0001 f value 16.23

KEY

M = Modeling
VI = Verbal Instruction
RP = Role Playing
I = Incentive
VF = Verbal Feedback
BR = Behavioral Rehearsal
PS = Problem Solving
L = Limited

A COMPARISON OF SOCIAL SKILLS TRAINING PROGRAMS FOR ADULTS WITH RETARDATION

STUDY	SAMPLE	TECHNIQUES							SKILLS ADDRESSED	DURATION	METHOD	ASSESSMENT	RESULTS
		M	VI	RP	I	VF	BR	PS					
Bates, 1980	16 adults, mild/mod. retard.	X	X		X	X	X	L	1. Introductions & small talk. 2. Asking for help. 3. Differing w/ others. 4. Handling criticism.	3 1-hr. sess. per wk - 4 wks.	Multiple baseline analysis. 5 subject/5 control	1. Role play, trained & untrained (for generalization). 2. Grocery store (for generalization). (Role play assessed according to guidelines to Goldfried & D'Zurilla's problem-solving model.)	Consistent improvement after instruction. Generalization of situation role play showed significant improvement. Generalization to natural environment (grocery store) did not reach significance.
Ostby, 1982	46 adults. mild/mod. retard.	X		X				X	1. Handling inappropriate behavior of others. 2. Peer pressure. 3. Inappropriate questioning. 4. Handling employer criticism.	2 1-hr. sess. per wk - 7 wks.	Subjects randomly assigned to treatment & control.	1. Post-test via Social Problem-Solving Video Assessment (SPS-Video). 2. Pre- & Post-test via the Observational Emotional Inventory (OEI).	ANOVA indicated significant differences between treatment and control on total and subscale score of SPS-Video. Differences were not found in behavior rating - thus no evidence to indicate the effects of treatment generalized to behavior observed in the workshop environment.
Matson/ Senatore, 1981	32 adults. mild/mod. retard.	X	X		X		X		1. Decreasing complaining statements. 2. Increasing positive statements (topic: events at workshop).	2 1-hr. sess. for 5 wks.	Compared 3 groups: no treatment; traditional psychotherapy; social skills training.	Pre- & post-test follow-up by subtest of AAMD subscale (follow-up was 3 months later). Assessment tools: 1) role playing situations w/ standardized questions; 2) group discussions (6 questions asked each client). 3) rating scales of overall functioning filled out by workshop staff: Nurses' Obser. Scale for Inpatient Eval. & Social Performance Survey Schedule.	Social skills training was significantly more effective than other two. Scores were significant from pre- to post-test except SPSS. Generalization assessed at 3 mos. follow-up showed some relapse, but relapses not significant.

STUDY	SAMPLE	TECHNIQUES: M	VI	RP	I	VF	BR	PS	SKILLS ADDRESSED	DURATION	METHOD	ASSESSMENT	RESULTS
Turner, Hersen & Bellack, 1978	19 yr old male, mild/ mod. reterd. - severe behavior problem	X	X	X		X	X		1. # of words spoken. 2. Eye contact. 3. Smiles. 4. Response latency. 5. Speech loudness. 6. Overall assertiveness.	Daily ½ hr. sess. for 7 wks.	Role model & narretor presented scenes.	Scenes depecting interpersonal situations from Behavior Assertiveness Test.	Multiple baseline analysis showed improvement in all areas. At 6 mo. follow-up eye contact maintained 100%; slight decrement in response latency, speech loudness, # of words spoken & overall assertiveness. Booster training resulted in improvement in # of smiles & physical gestures (both had shown marked decrements at follow-up).
Senetore, Meteon & Kazdin, 1982	35 adults, mild/mod. retard.	X	X	X		X	X		1. Verbal responses. 2. Appropriate response.	2 1-hr. sess. per wk. - 5 wks.	Sample divided into 3 groups: "package"; "package" + active rehearsal; "control."	1. Role play performance. 2. Interview. 3. Party (for generalization). 4. Follow-up (6 mo. later).	Significant effects of treatment at post-test for role play assess. Interview also showed significant effects of treatment at post-test. Group w/active rehearsal was significantly higher than other two treatments.
Gibson, Lawrence & Nelson, 1976	3 adults, mild/mod. retard.	X	X			X			1. Verbalization. 2. Recreation. 3. Cooperation.	9 individual 15 min. sess. each	Video-taped non-raterded models; compared 3 techniques: modeling; instructions & feedback; and modeling, instructions & feedback.	Baseline observation; 9 probes per subject.	Condition C (modeling, instructions & feedback) produced the greatest changes, although all 3 conditions produced improvement.

STUDY	SAMPLE	TECHNIQUES: M	VI	RP	I	VT	BR	PS	SKILLS ADDRESSED	DURATION	METHOD	ASSESSMENT	RESULTS
Perry & Cerreto, 197?	30 adults, mild/mod. retard.	X		X	X		X		1. Mealtime behavior. 2. Informal social behavior w/peers such as cooperation on task.	3 45-minute sess. per wk. for 5 wks.	3 treatment groups: structured learning trning (SLT); discussion format; control.	Pre-test observation checklist of mealtime behav.; observation checklist for SLT (pre and post); counselor rating w/Walker Problem Behavior Identification Checklist & The Washington Assess. and Training Scales; Behavior Observation Scoring System (BOSS) (pre and post) to observe ongoing social activities.	Mealtime: 80% positively changed in SLT in discussion group 20% positive change in control. Social behavior: 90% changed pos. in SLT. 90% changed pos. in discussion group. 40% change in control. Generelization was not stressed, but changes did occur in the mealtime which was a natural environment.
Foxx, McMorrow & Schloss, 1982	6 adults, mild/mod. retard, 6 behavior problems				X	X	X		1. Compliments. 2. Social interaction. 3. Politeness. 4. Criticism. 5. Social confrontation. 6. Question/Answers.		Divided into Grp 1 & Grp 2. 8 card games developed for each of the 6 skills. Game played on "Sorry" board.	In a simulated situation closely resembling natural envir.. clients responded to the areas trained. Both groups averaged above 75% correct.	Both grps improved over baseline in every area. Grp 2 went from baseline of 40.2% correct to 78% after training. Grp 1 went from baseline 26.4% correct to 75% at conclusion. Generalization: Clients asked to respond to the game situations in an informal interview. Resulted in 75% correct.
Foxx, Martin, McMorrow & Mennemier, 1984	6 adults, mild/mod. retard.				X	X	X		1. Compliments. 2. Social interaction. 3. Politeness. 4. Criticism. 5. Social confrontation. 6. Question/Answers.		Divided into Grp 1 & Grp 2. 8 card games developed for each of the 6 skills. Game played on "Sorry" board.	1) Multiple baseline design across grps to assess training effects in game setting. 2) Workshop simulation to assess generalisation. 3) Measure of generalisation to natural setting of workshop.	1) Grp 1 improved from baseline of 43.3% to 76.8% during training to 90% at end of training. 2) Generalization: Grp 1 improved from 38.4% preassessment to 63.2% post on workshop simulation. Grp 2 improved from 30.5% to 62.2% 3) Results equivocal in workshop measure of generalization

STUDY	SAMPLE	TECHNIQUES: M	VI	RP	I	VT	BR	PS	SKILLS ADDRESSED	DURATION	METHOD	ASSESSMENT	RESULTS
Stecy/ Coleys/ Malcolm, 1979	14 adults, mild/mod. retard.	X		X		X	X	L	1. Eye contact. 2. Latency of response. 3. Length of reply. 4. Non-compliance.	20 ½-hr. daily individual sess. over 4 wks.	8 in exper. group; 6 in control	Behavioral Assertiveness Test (pre and post).	Training resulted in substantial positive change in each dependent variable except latency of response for exper. grp. In other dependent variables t tests revealed statis. significant change. Generalization was indicated by a significant t test for unfamiliar sences assessment.

APPENDIX C

ABSTRACT PRESENTED TO HUMAN RIGHTS COMMITTEE

ABSTRACT

The purpose of this paper is to describe the use of human subjects in the research proposed by Kay T. Bannon.

a. Six adults with mild/moderate mental retardation will be asked to participate in 16 hours of training in social skills related to maintaining employment. The training will take place in the setting where the subjects are employed. The program is designed to teach appropriate verbal responses needed in work situations using a table game format. Each baseline game (4) and each training game (12) will involve three players and one facilitator (the researcher). Assessments will involve a 15 minute role play pre and post measurement of each subject which will be tape recorded. A 20 minute work session will be video taped in the work setting each day. These recordings will be made to provide inter-rater reliability.

b. The rights and welfare of the subjects will be protected in the following ways:

(1) Minimum intrusion into their normal schedule.

(2) Informed consent and explanations as the program progresses.

(3) Offer to answer questions and make changes if requested.

(4) Explanation of how the program should prove useful. The clients will be treated with respect at all times.

c. Information about the research method will be provided by verbal explanation and also by graphs as each subject graphs his/her progress.

d. The Consent to Participation form (see attachment) will be read to the subjects and explained by the researcher.

e. The privacy of participants will be protected by referring to each person's assigned number instead of name in all written reports.

APPENDIX D

CONSENT TO PARTICIPATION FORM

CONSENT TO PARTICIPATION IN VOCATIONAL EDUCATION RESEARCH PROJECT

This paper is written to tell you about a new program that will take place where you work. The program is meant to be helpful and also to be fun. The program will be taught by Mrs. Kay Bannon.

The class will be held in your work area on Monday, Tuesday, Wednesday, Thursday and Friday for one hour on each day, for four weeks this Fall. Three people will be in each class with Mrs. Bannon, and we will have two classes a day. We will sit at a table and play a game. You will have chances to answer questions about things that happen at work. You will be able to learn new ways to answer some of the questions. Your answers during the game will not mean any changes will happen when you are working.

Your answers to the game questions and to the role play situations will be tape recorded. We will video tape about 20 minutes a day as you work with others on a job. The information from the recordings will help us to know if the program is helpful and also to evaluate Mrs. Bannon's work. The recordings will not be distributed to anyone outside of Mrs. Bannon's committee of four people from the University of Massachusetts and one objective rater. In the records you will be identified by a number instead of your name to protect your privacy.

After we have finished our classes, Mrs. Bannon will write a report about what we did. If you would like to hear about the report, Mrs. Bannon will come back and tell you about it.

The program is meant to help you at work. If you feel at any time that it is not, please let Mrs. Bannon know and we will make some changes or you may decide not to be in the program at any time.

When you sign your name on this page, you are saying that you want to be in the program.

In the presence of:

_____ _____

(Employee)

APPENDIX F

LETTER OF ENDORSEMENT

incentive community enterprises, inc.
p.o. box 810, northampton, ma 01061 tel. 584-1460

] Administration
P.O. Box 810
441 Pleasant St.
Northampton, MA 01061
(413) 584-1460

] P.O.Box 841
57 Wells St.
Greenfield, MA 01301
(413) 774-5595

] P.O.Box 1398
276 High St
Holyoke MA 01041
(413) 536-4200

] P.O. Box 2409
121 Chestnut St
Suite #3
Springfield, MA 01103
(413) 733-1240

150 North St
4th Floor
Pittsfield, MA 01201
(413) 499-1248

P.O. Box 454
911 South Church St
North Adams, MA 01247
(413) 663-5329

October 5, 1985

Dear Kay:

The Human Rights Committee of Incentive Community Enterprises, Inc. wishes to notify you of our decision to endorse your research project involving I.C.E., Inc. clients. We were impressed with your professionalism and deep concern for protecting the rights of participating clients.

Your presentation was both informative and personable. Your thorough planning could only lead to improved services for the population we serve.

We wish you success in your research efforts and are looking forward to having you present the results to our Committee.

Sincerely,

Donald P. Whitney

Atty. Donald P. Whitney, Chairman
Human Rights Committee
Incentive Community Enterprises, Inc.

APPENDIX F

SUPERVISOR INTERACTION SHEET

Supervisor Interaction Sheet

Following is a list of statements or questions to be made by the supervisor to the subjects in Group 1 and Group 2 on an individually assigned basis during the separate 15 minute periods in which they are involved in the video taped structured task. Two interactions (statement or question) should occur with each student during the 15 minute period. This sheet will be structured to assign two interactions per client per day. If the interaction suggested for any particular day is not appropriate for the situation, please subsitute another question or statement on the list. Please check off each number as you use it.

KEY: Cl = Client; Co = Co-worker; WAJ = Worker on Another Job

1. Supervisor: "Good morning",(Cl_____).
   Response_____. (SI, R, #3)

2. Supervisor: "Good work, (Cl_____), Keep it up.
   Response_____. (C, R, #2)

3. Supervisor: "(Cl_____), you're not doing that right".
   Response_____. (CR, R, #4)

PLEASE NOTE: The following situations are "if" or "pretend" interactions with the supervisor asking the client hypothetical questions.

4. (Cl_____), pretend (Co_____) will get mad if you don't stop work and talk to him/her. What should you do?
   Response:_____. (SC, A, #5)

5. (Cl_____), what if you see that (Co_____) is not (a) folding the papers right; (or)
   (b) stapling the papers right; (or)
   (c) handing you the papers right; What would you do?
   Response_____. (CR, A, #5)

6. (Cl_____), what would you say if (WAJ_____) asked you to come over and work with him/her, but you had been told to stay on this job?
   Response_____. SC, R, #12

7. Cl_____), what should you do if you say something that makes Co_____ angry?
   Response_____.(SC, A, #13)

8. (Cl_____), what would you say if (WAJ_____) makes fun of you by saying "you get all the easy jobs".
Response_____.(SC, R, #16)

9. (Cl_____), what would you say if (Co_____) said, "let's go to the break room", but it's not time for your break?
Response_____. (P, R, #19)

10. (Cl_____), what would you say if (Co_____) said, "You are really a slow worker"?
Response_____. (CR, R, #21)

11. (Cl_____), if you liked the job (Co_____) had done, what could you say to him/her?
Response:_____. (C, A, #23)

12. (Cl_____), if (Co_____) is leaving the workshop with the stapler in her hand, what should you do?
Response_____. (SC, A, #24)

13. (Cl_____), if (Co_____) is telling jokes while you are trying to work, what should you do?
Response_____. (CR, A, #25)

14. (Cl_____), what should you say if (WAJ_____) keeps bothering you when you are working?
Response_____. (SC, R, #29

15. (Cl_____), what should you do if (Co_____) is working slower than you?
Response_____. (CR, A, #30)

16. (Cl_____), if you wanted to sit by (WAJ_____) during break, what could you say?
Response_____.(Q, A, #32)

17. (Cl_____), what should you do if (WAJ_____) is talking very loudly and making it hard to work?
Response_____. (CR, A, #33)

18. (Cl_____), what would you do if (WAJ_____) called you a name?
Response_____. (CR. R, #34)

19. (Cl _____), what should you do if you break the stapler that (Co _____) is going to use?
Response_____. (SI, A, #35)

20. (Cl _____), what if (WAJ _____) accidently bumps your work table and envelopes fall all over the floor. S(he) says "I didn't mean to do it." What should you do?
Response_____. (SI, R, #36)

21. (Cl _____), if you are carrying this heavy box of papers and you bump into (WAJ _____) and s(he) says, "Hey, watch it". What should you say to her/him?
Response_____. (P, R, #39)

22. (Cl _____), if (Co _____) seems to like working with you, what should you say?
Response_____. (SI, A, #40)

23. (Cl _____), if (Co _____) says, "it sure is a nice day today", what should you say?
Response_____. (SI, A, #43)

24. (Cl _____), if (WAJ _____) says to you, "I'd like to work with you sometime; you're a good worker". ..what would you say?
Response_____. (C, R, #44)

25. (Cl _____), if you borrowed (Co's _____) stapler while (s)he was gone, what should you say when (s)he returns and you still need the stapler? (P,A, #31).

26. (Cl _____), if you are talking to me and you burp accidently, what should you say? (P,A, #8)

27. (Cl _____), if (Co _____) asks you to move so (s)he can get to his/her chair, what would you say? (Q,R, #20)

28. (Cl _____), if you need to find the (staples..envelopes..paper), how would you ask for help? (Q,A, #17).

Please note: The following "interferences" in the job situation will be arranged by the researcher in order to stimulate verbalization during the 20 minute video session:

Day 1: a. The green paper will run out. (Q,A, #11)

b. The stapler will run out of staples. (Q,A, #17)

c. The envelopes will run out. ((Q,A, #11)

Day 2: d. The yellow paper will run out. ((Q,A, #11)

e. The stapler will be missing. (Q,A, #17)

f. The box to put the envelopes in will be missing. (Q,A, #17)

(These situations will continue to rotate during the 16 day period.)

Note. The items in Supervisor Interaction Sheet are adapted from "Stacking the Deck, A Social Skills Game for Retarded Adults" by R. M. Foxx and M. J. McMorrow, 1983, Champaign, Illinois; Research Press.

APPENDIX G

SIMULATION _ GENERAL/VOCATIONAL SKILLS

SIMULATION - GENERAL/VOCATIONAL SKILLS

Supervisor walks up to client.

SUP: Good morning.
1. response_____

SUP: Sure is a nice day.
2. response_____

SUP: (asks client to sit down at the sorting table (alone) and explains the job. After giving instruction, Sup. says:

SUP: I bet you're real good at following instructions.
3. response_____

SUP: (tells client she must leave for a minute and to stay at his table until she gets back. Supervisor exits).

EMPLOYEE 1: (Sitting at nearby table, working on team job with Employee 2) "Good to see you".
4. response_____

EMP.1: You have an easy job there.
5. response_____

EMP.1: Where's the bathroom?
6. response_____

EMP.1: I guess I'll wait. Hey, come over and work over here and work with us.
7. response_____

SUPERVIVOR: (re-enters the room. Returns client to table (if needed) and inspects client's work.)

SUP: You're not doing this right.
8. response_____
(If it is actually correct, Sup. apologizes)
(Sup. continues to watch, then compliments:)

SUP: You did real good in that short time.
9. response_____

SUP: _____, what should you do if another worker is bothering you when you want to work?
10. response_____

SUP: What should you do if you say something that makes another worker angry?
11. response_____

(Sup. asks client and Emp.1 to switch jobs. Client goes to team job. Emp.1 bumps the table (loudly) while getting up

SUP: What should he say when he bumps someone's table?
12. response_____

SUP: (Supervisor explains the job. Once again she says "stay at this table until I come back". (Sup. exits)

EMPLOYEE 2: (clearly performing the team job incorrectly...for example, puts nuts in the bolt box.. for approximately 2 minutes)

EMP. 2: (speaking to client)...you are real good at this job.
13. response_____

EMP. 2: Do you think I am good at this job?
14. response_____

Pause....

EMP. 1: Let's go to the breakroom.
15. response_____

SUP: (re-enters and inspects work. Tells Emp.1 "_____, go sweep by the _____(coke machine or refrigerator).

SUP: (to client) When you are at work and you run out of parts, what should you do?
16. response_____

SUP: And what would you do if you needed help with something, but everyone was busy?
17. response_____

SUP: O.K.. now. client, would you go over to the box and bring me a hammer? (there is no hammer in the box), and Emp. 2, would you get that other box over there?
18. response_____

EMP.2: client, would you help me with this box?
19. response_____

EMP.2: (As they finish). Thanks, you are really strong.
20. response_____

SUP: client, when someone does real good on a hard job, what should you say?
21. response_____

SUP: Let's go on break. (Sup. and client walk off toward breakroom).

EMP. 2: client, save me a seat at the table.
22. response_____

(Client and Sup. stop by the breakroom)

SUP: If there was someone special you wanted to sit with on break, what would you do?
23. response_____

EMP.1: (still sweeping..speaks to client): "Would you move so I can sweep there?
24. response_____

SUP: What should you do if you think you make another worker angry?
25. response_____

EMP.2: (entering the room). Can I borrow a quarter for a soda?
26. response_____

(All sit down for snack and engage in small talk)

EMP.1: (fakes a burp)

SUP: What should he say when he burps by accident?
27. response_____

SUP: You've been doing real good. I bet you'll be one of the best workers in the shop today.
28. response_____

(small talk.....Emp.1 begins to walk out with the broom)

SUP: If snother worker was leaving the shop with a tool, what should you do?
29. response_____

SUP: That about does it. client, would you throw the cups away for me?
30. response_____

Note. From "Teaching Social/Vocational Skills to Retarded Adults with a Modified Table Game by R. M. Foxx, M. J. McMorrow, and M. Mennemeier, 1983, Journal of Applied Behavior Analysis, 16.

APPENDIX H

FACILITATOR SCORING GUIDE

FACILITATOR SCORING GUIDE

When a response is given, check this sheet to determine whether it satisfies the criteria for a correct response. Cards are coded to show the skill area and category for which the situation was developed. Refer to the area and category before scoring.

Skill Area		Category	Characteristics of a Correct Response
(C)	Compliments	(A) Actor	1. Tells the other person *what* you like and/or 2. How you feel about it
		(R) Reactor	1. Acknowledges the compliment and/or 2. Relates back to the other person (e.g., "Your shirt is nice too")
(SI)	Social Interaction	(A) Actor	1. Initiates a conversation and/or 2. Helps keep the conversation going
		(R) Reactor	1. Lets the other person know you are listening and/or 2. Helps keep the conversation going
(P)	Politeness	(A) Actor	1. Addresses the issue and/or 2. Uses appropriate language (e.g., "Thank you," "Excuse me")
		(R) Reactor	1. Uses appropriate language and 2. Offers an explanation
(CR)	Criticism	(A) Actor	1. Tells the other person *what* you don't like and/or 2. Says something nice (e.g., "You look better in red")
		(R) Reactor	1. Tells the other person what you think and/or 2. Says something nice
(SC)	Social Confrontation	(A) Actor	1. Tells the other person what you think about the problem and/or 2. How you feel about it
		(R) Reactor	1. Tells the other person what you think about the problem and/or 2. What can be done about it
(Q)	Questions/ Answers	(A) Actor	1. Asks an appropriate person (if applicable) and/or 2. States the question completely
		(R) Reactor	1. Answers the question and 2. If the answer is no, gives an explanation

NOTE. Players sometimes respond to a situation in a way that does not satisfy the scoring criteria, but that does represent an effective, appropriate, or useful solution. Such novel responses should be scored and treated as correct, but in such instances the facilitator should provide a sample correct response for the other players.

It also should be noted that the criticism and social confrontation scoring criteria do not permit the player to state that he or she would ignore the situation or refer it to someone else such as a workshop supervisor or staff member. This is because the purpose of the game is to teach effective social interaction under sometimes difficult circumstances.

Note. From "Stacking the Deck, A Social Skills Game for Retarded Adults", by R. M. Foxx and M. J. McMorrow, 1983, Champaign, Ill: Research Press.

PLAYER SCORECARD

NAME _____

THE NUMBER CIRCLED IS THE NUMBER YOU NEED TO WIN.
PUT AN "X" IN A BOX WHEN YOU ANSWER RIGHT.

GAME

ONE	1	2	3	4	5	6	7	8	9	10	11	12
TWO	1	2	3	4	5	6	7	8	9	10	11	12
THREE	1	2	3	4	5	6	7	8	9	10	11	12
FOUR	1	2	3	4	5	6	7	8	9	10	11	12

PLAYER SCORECARD

NAME_____

THE NUMBER CIRCLED IS THE NUMBER YOU NEED TO WIN.
PUT AN "X" IN A BOX WHEN YOU ANSWER RIGHT.

GAME

ONE	1	2	3	4	5	6	7	8	9	10	11	12
TWO	1	2	3	4	5	6	7	8	9	10	11	12
THREE	1	2	3	4	5	6	7	8	9	10	11	12
FOUR	1	2	3	4	5	6	7	8	9	10	11	12

PLAYER SCORECARD

NAME_____

THE NUMBER CIRCLED IS THE NUMBER YOU NEED TO WIN.
PUT AN "X" IN A BOX WHEN YOU ANSWER RIGHT.

GAME

ONE	1	2	3	4	5	6	7	8	9	10	11	12
TWO	1	2	3	4	5	6	7	8	9	10	11	12
THREE	1	2	3	4	5	6	7	8	9	10	11	12
FOUR	1	2	3	4	5	6	7	8	9	10	11	12

Note: From " Stacking the Deck, A Social Skills Game for Retarded Adults", by R. M. Foxx and M. J. McMorrow, 1983, Champaign, Ill: Research Press.

APPENDIX J

FACILITATOR SCORING SHEET

Curriculum _____

FACILITATOR SCORING SHEET

This form shows the sequence of card numbers and the players who should receive them over a series of four games. Write the name of the curriculum and each player's name in the spaces provided. Under each number, mark a plus (+) if the response was correct or a minus (—) if the response was incorrect. Record the number of correct responses for each player when each game is over.

NAME — Game One, Group — **NUMBER CORRECT** Percent Correct

Facilitator	Card	1	5	9	13	17	21	25	29	33	37	41	45	
	Score													
Player 1	Card	2	6	10	14	18	22	26	30	34	38	42	46	
	Score													
Player 2	Card	3	7	11	15	19	23	27	31	35	39	43	47	
	Score													
Player 3	Card	4	8	12	16	20	24	28	32	36	40	44	48	
	Score													

Game Two, Group

Player 1	Card	13	17	21	25	29	33	37	41	45	1	5	9	
	Score													
Player 2	Card	14	18	22	26	30	34	38	42	46	2	6	10	
	Score													
Player 3	Card	15	19	23	27	31	35	39	43	47	3	7	11	
	Score													
Facilitator	Card	16	20	24	28	32	36	40	44	48	4	8	12	
	Score													

Game Three, Group

Player 2	Card	25	29	33	37	41	45	1	5	9	13	17	21	
	Score													
Player 3	Card	26	30	34	38	42	46	2	6	10	14	18	22	
	Score													
Facilitator	Card	27	31	35	39	43	47	3	7	11	15	19	23	
	Score													
Player 1	Card	28	32	36	40	44	48	4	8	12	16	20	24	
	Score													

Game Four, Group

Player 3	Card	37	41	45	1	5	9	13	17	21	25	29	33	
	Score													
Facilitator	Card	38	42	46	2	6	10	14	18	22	26	30	34	
	Score													
Player 1	Card	39	43	47	3	7	11	15	19	23	27	31	35	
	Score													
Player 2	Card	40	44	48	4	8	12	16	20	24	28	32	36	
	Score													

Note. From "Stacking the Deck, A Social Skills Game for Retarded Adults", by R. M. Foxx and J. J. McMorrow, 1983, Champaign, Ill: Research Press.

APPENDIX K

FACILITATOR RESPONSE SHEET

SOCIAL/VOCATIONAL SKILLS FACILITATOR RESPONSE SHEET

The situations listed here correspond to the cards in the Social/Vocational Skills deck, and are arranged according to the small numbers that appear in the upper-right-hand corner of the cards. A sample correct response for the facilitator to use on his or her turn follows each question; it is shown in italics. The situations are derived from six skill areas: Compliments (C), Social Interaction (SI), Politeness (P), Criticism (CR), Social Confrontation (SC), and Questions/Answers (Q). Situations are also categorized as requiring an action (A) or reaction (R) from the player. Each sample correct response is followed by the letter codes that specify the skill area and category for that situation.

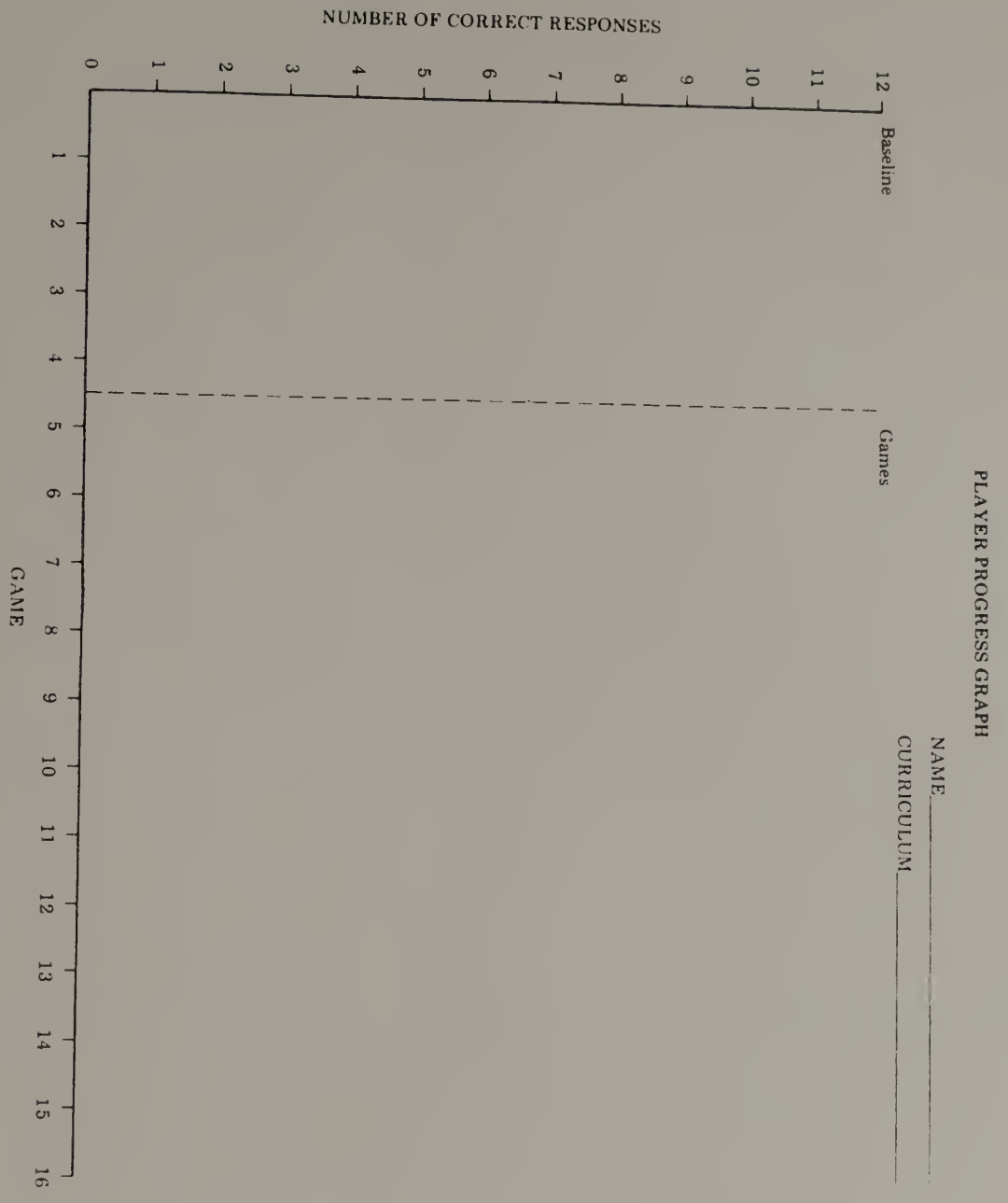
1. One of the other workers did very good on a hard job. What would you say? "*You did good on a hard job.*" C, A
2. Your supervisor says, "Good work, _____, keep it up!" You should say... "*Thank you, I'll try.*" C, R
3. When someone says "Good morning," you say. ... "*Hi, how are you today?*" SI, R
4. You are working on an assembly task and your supervisor says, "_____, you're not doing that right." What should you do? *Say "I thought I was doing it right. Would you show me the right way?"* CR, R
5. You are afraid your co-worker won't like you if you don't stop working and talk to her. What should you do? *Say "I like talking with you, but not while I'm working."* SC, A
6. Another worker says, "Do you think I did OK on this job?" If you think it is not good work, what should you say? "*I think you can do better.*" CR, R
7. You accidentally step in front of another worker who is sweeping the workshop floor. What do you say? "*Excuse me, I'll get out of your way.*" P, A
8. You are talking to your supervisor and you burp accidentally. What should you say? "*Excuse me, I didn't mean to burp.*" P, A
9. It's your first day at work and you can't find the bathroom. What should you do? *Ask a co-worker "Where is the bathroom?"* Q, A
10. You are working on a sorting task with another worker. He isn't doing the job right. What should you do? *Say "You are not doing that job right. I have seen you do better."* CR, A
11. You have run out of parts that you need to finish your job. How would you ask for more parts? "*I need more parts to finish this job. Could you please bring me some?*" Q, A
12. Your supervisor says, "_____, stay on this job," but another worker asks you to work on something else. What should you say? "*I can't right now. I have to finish this job.*" SC, R
13. You say something that makes another worker angry. What should you do? *Say "I didn't mean to make you angry, but that's how I feel."* SC, A
14. You are on your break and a friend says, "Can I borrow a quarter?" If you don't have any money, what do you say? "*I'm sorry, I don't have any money.*" Q, R
15. You need someone to help you carry a large box, but everyone is busy. What should you do? *Wait until someone is not busy, then ask for help.* P, A
16. Someone makes fun of you by saying "_____, you always get the easy jobs." What would you say? "*Please don't make fun of me. I just do what I'm told to do.*" SC, R
17. You need to find a tool. How would you ask for help? "*Could you please show me where the tools are?*" Q, A
18. It's your first day on the job and you are introduced to the supervisor. You might say hello and... "*It's nice to meet you.*" SI, A
19. A friend says, "Let's go to the break room," but it isn't time for your break. What should you say? "*Sorry, I can't go right now. It's not time for my break.*" P, R
20. You are standing by the drinking fountain and another worker says, "Would you move so I can get a drink?" What do you say? "*Yes, I'll get out of your way.*" Q, R
21. Another worker says, "You are really a slow worker." What should you say? "*I'm doing the best I can.*" CR, R
22. When you tell someone she did a good job, she should say... "*Thank you.*" C, R
23. If someone liked the job you had done, he would say... "*You did a very good job.*" C, A

Note. From "Stacking the Deck, A Social Skills Game for Retarded Adults", by R. M. Foxx and M. J. McMorrow, 1983, Champaign, Ill: Research Press.

24. Someone is leaving the workshop and you see that she has a shop tool in her hand. What should you do? *Go up to her and say "Did you forget to return that tool?"* SC, A
25. Another worker is telling jokes while you are trying to work. What should you do? *Say "Please stop that. I'm trying to work."* CR, A
26. You're going to the break room and another worker says, "Save me a seat at your table." What do you say? *"OK, if it isn't too crowded."* Q, R
27. The supervisor says, "_____, you were the best worker in the shop this week." What should you say? *"Thank you, I've been doing my best."* C, R
28. It's your first day on the job and a friend says, "Good to see you." What do you say? *"Good to see you too. How do you like it here?"* SI, R
29. When you are on a job and someone keeps bothering you even though you have asked him not to, you should . . . *Ask him again to stop. If he doesn't, inform the supervisor.* SC, R
30. You are working on a team job and the other worker is working slower than you. What should you do? *Say "You are working too slow. Can you work any faster?"* CR, A
31. While someone was gone from her work table, you borrowed one of her tools. What should you say when she comes back and you still need the tool? *"I borrowed your tool. I'll be done with it in a minute."* P, A
32. There is someone special that you want to sit with at break. What should you do? *Go up and say "Would you like to sit with me at break?"* Q, A
33. Someone is talking very loudly and it's making it hard to work. What should you do? *Ask him to quiet down so you can work.* CR, A
34. If someone calls you a name, you should . . . *Say "Please don't call me names. I like you better when you don't."* CR, R
35. If you break another worker's tool, you should . . . *Go tell the worker that you broke it.* SI, A
36. Someone accidentally bumps your work table and parts fall all over the floor. He says, "I didn't mean to do it." What should you do? *Say "It's OK, but would you help me pick up the parts?"* SI, R
37. You are on break and waiting to use the bathroom. Another person cuts in front of you. What should you do? *Ask the person to go to the end of the line.* SC, R
38. You just finished doing a good job. Someone might say. . . *"Good job!"* C, A
39. You are carrying a heavy box and you bump into another worker. She says, "Hey, watch it, _____!" What should you say to her? *"I'm sorry, this box is pretty heavy."* P, R
40. Another worker seems to like working with you. What should you say? *"It's nice working with you today."* SI, A
41. A new worker says, "_____, where's the bathroom?" What do you say? *"The bathroom is _____."* Q, R
42. Your supervisor says, "_____, do you want to work on this new job?" If you really like the job you are now doing, what do you say? *"I really like this job. Can I stay on it?"* P, R
43. Another worker says, "It sure is a nice day today." You say. . . *"Sure is, I hope it stays this way."* SI, R
44. Another worker says, "_____, I'd like to work with you some time, you're a good worker." What would you say? *"Thanks, I'd like to work with you too."* C, R
45. Your supervisor told you to stay at your work table, but another worker says, "Hey, come here." What do you say? *"I'm sorry, I can't right now. I have to stay at the table."* P, R
46. Another worker has been working hard all day. What should you say? *"You've really been working hard today. That's good."* C, A
47. Another worker is playing around at your work table and you want to work. What do you say? *"It's hard for me to work when you play around like that. Please stop."* SC, A
48. You are entering the workshop and you see someone new. What should you say? *"Hi, my name is _____. What's yours?"* SI, A

APPENDIX L

GRAPH OF RESPONSES



Note. From "Stacking the Deck, A Social Skills Game for Retarded Adults", by R. M. Foxx and J. J. McMorrow, 1983, Champaign, ILL: Research Press.

APPENDIX M

WORK BEHAVIOR RATING SCALE TRAINEE PROFILE EVALUATION SUMMARY

COORDINATION OF WORKSHOPS

E. TRAINEE PROFILE AND EVALUATION SUMMARY
Work Behavior Rating*

Trainee _____ Workshop _____ Report Period _____

Counselor _____ Program _____ Type of Report _____

Dates Absent _____ Shop Notified _____

Reasons Absent _____

No. Hours Present _____ Total earnings during report period _____

Rater(s) _____

Work Behavior Rating Scale	F	D		C			B		A	Score
	1	2	3	4	5	6	7	8	9	
1. Co-Worker Relations										
2. Disruptiveness										
3. Tolerance for Criticism										
4. Independence from Supervision										
5. Cooperation with Supervisor										
6. Understanding Oral Instructions										
7. Memory for Instructions										
8. Motivation for Work										
9. Concentration Ability										
10. Punctuality										
11. Quality of Work										
12. Quantity of Work										
13. Safety Awareness and Habits										

Placeability Level _____ Total _____

Criteria for Grades:

A Excellent – Performance meets usual competitive standards in unskilled and semi-skilled employment.

B Good – Above average workshop performance but does not fully meet competitive standards in unskilled and semi-skilled employment.

C Fair – Falls in average performance range of workshop trainees. Although within acceptable limits of the worksl op, considerable improvement required to attain competitive standards.

D Poor – Below average performance. Improvement needed to meet workshop standards.

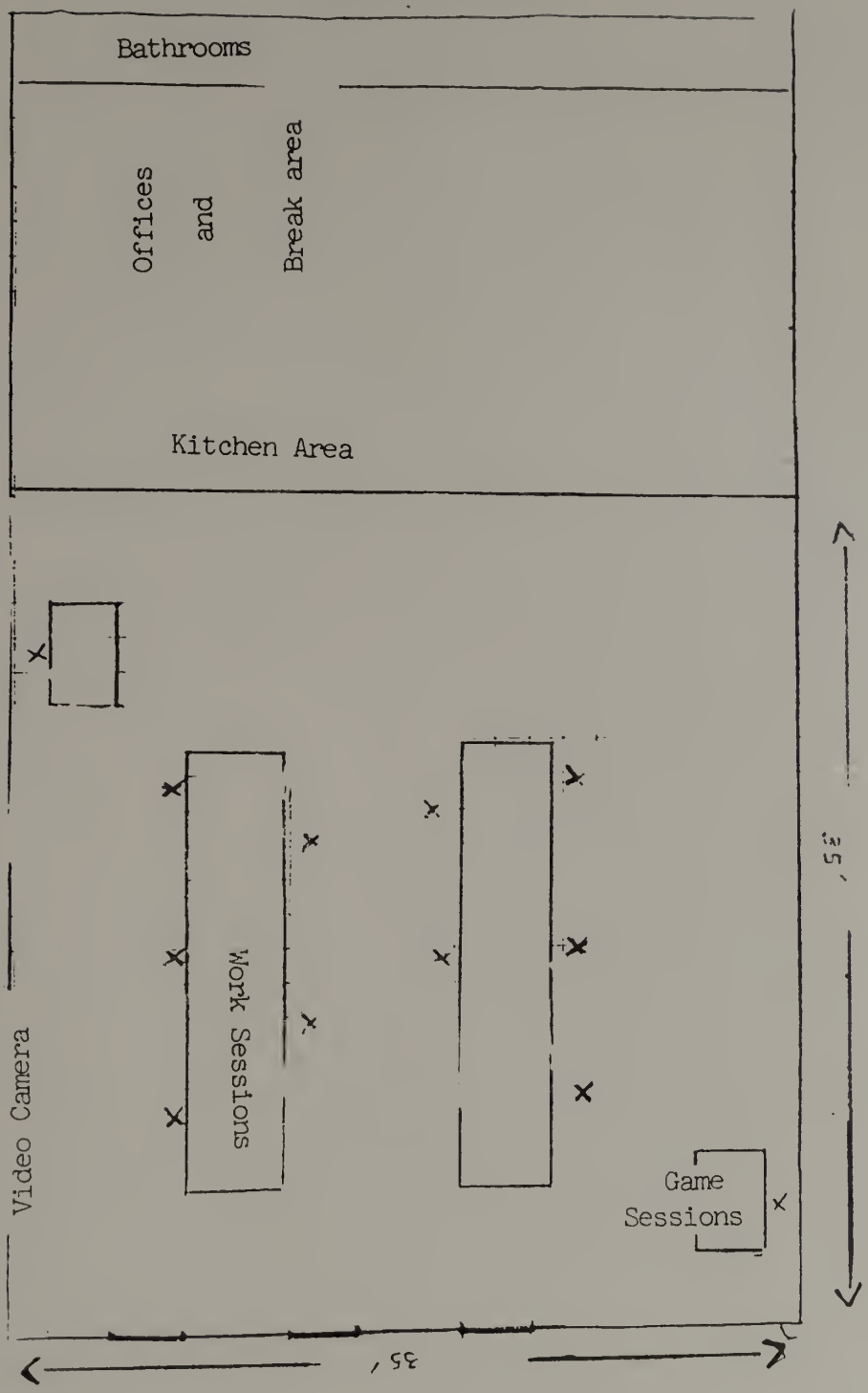
F Extremely Inappropriate – Behavior requires special supervisory or professional staff attention. May require services beyond the scope of a workshop training program such as intensive psycho-therapy, medical treatment, activity or day care center.

*NOTE: In addition to this page, the actual summary also included second and third pages that were identical to Appendices H8, H9

Note: From "Work Behavior Rating Scale", by R. D. Shushan, 1979, Los Angeles Angeles, CA: Exceptional Children's Foundation.

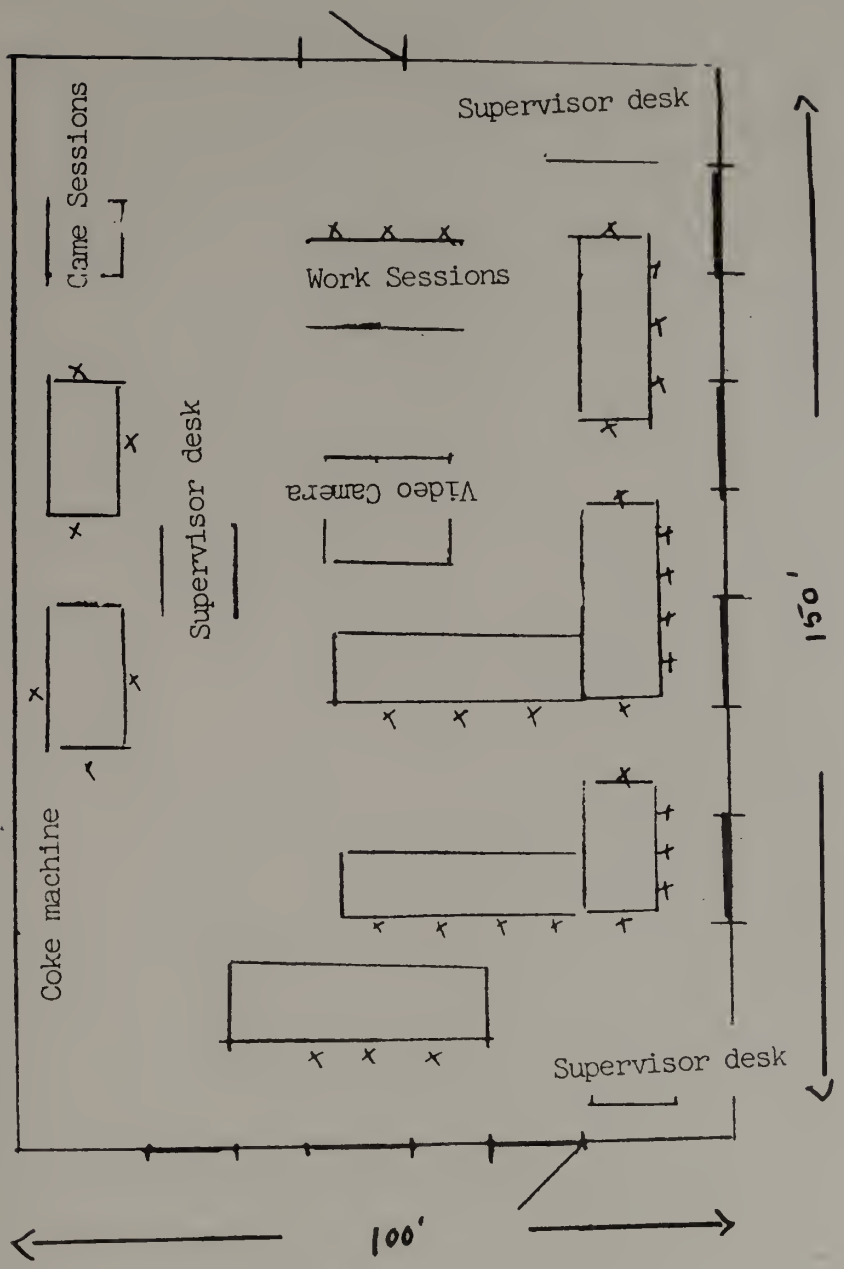
APPENDIX N

WORKSETTING 1



APPENDIX O

WORKSETTING 2



BIBLIOGRAPHY

Abel, T. M. (1940). A study of subnormal girls successfully adjusted in industry and the community. American Journal of Mental Deficiency, 45, 66-72.

Baller, W. R. (1936). A study of the present social status of a group of adults, who, when they were in elementary schools, were classified as mentally deficient. Genetic Psychology Monogram, 18, 165-244.

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Barlow, D. W., & Hersen, M. (1984). Single case experimental designs (2nd ed.). New York: Pergamon Press.

Baroff, G. S. (1974). The vocational potential of retarded persons. In J. G. Cull & R. E. Hardy (Eds.), Modification of the behavior of the mentally retarded. Springfield, IL: Charles E. Thomas. Bates, P. (1980). The effectiveness of interpersonal skills training on the social skill acquisition of moderately and mildly retarded adults. Journal of Applied Behavior Analysis, 13, 237-248.

Bates, P. & Harvey, J. (1978). Social skills training with the mentally retarded. In O. C. Karen, Habilitation practices with the severely developmentally disabled, Vol. 2, pp. 74-103. Madison, WI: University of Wisconsin.

Baumeister, A. A. (1967). Learning abilities of the mentally retarded. In A.A. Baumeister, Mental retardation, (pp. 181-211), Aldine Publishing Co.

Berler, E. S., Gross, A. M. & Drabman, A. S. (1982). Social skills training with children: Proceed with caution. Journal of Applied Behavior Analysis, 15, 41-53.

Bernstein, G. S. (1981). Research issues in training interpersonal skills for the mentally retarded. Education and Training of the Mentally Retarded, 16, 70-74.

Birnbrauer, J. S., Peterson, C. R., & Solnick, J. W. (1974). Design and interpretation of studies of single subjects. American Journal of Mental Deficiency, 79, 191-202.

Bitter, J. A. (1979). Introduction to rehabilitation. St. Louis: C.V. Mosby.

Bowe, F. G. (1980). An overview paper on civil rights issues of handicapped americans: public policy implications. In a consultation sponsored by the U. S. Commission on Civil Rights, Washington, DC. Civil rights issues of handicapped Americans: Public policy implications (pp. 7-31).

Breene, T. (1983). Hotelier hires the handicapped because they are different--in their loyalty. Hotel and Motel Management, 198, 21.

Brickey, M., Browning, L. & Campbell, K. (1982). Vocational histories of sheltered workshop employees placed in projects with industry and competitive jobs. Mental Retardation, 20, 52-57.

Brickey, M., & Campbell, K. (1981). Fast food employment for moderately and mildly mentally retarded adults: The McDonald's project. Mental Retardation, 19, 113-116.

Brody, G. H. & Stoneman, Z. (1977). Social competencies in the developmentally disabled: Some suggestions for research and training. Mental Retardation, 15, 41-43.

Brown, F. G. (1983). Principles of educational and psychological testing. New York: Holt, Rinehart and Winston.

Brown, R. I. & Hughson, E. A. (1980). Training of the developmentally handicapped adult. Springfield, IL: Charles C. Thomas.

Bruch, M. A., Kunce, J. T., Thelen, M. H. & Akamatsa, T. J. N. (1973). Modeling, behavior change, and rehabilitation. Columbus: University of Missouri. (NTIS No. PB-236 605).

Campbell, D. T. & Stanley, J. C. (1966). Experimental and quasi-experimental designs for research. Chicago: Rand McNally & Co.

Cheny, D. & Foss, G. (1984). An examination of the social behavior of the mentally retarded workers. Education and Training of the Mentally Retarded, 19, 216-221.

Cobb, H. V. (1969). The predictive assessment of the adult retarded for social and vocational adjustment.

Vermillion, SD: University of South Dakota.

Cobb, H. V. (1972). The forecast of fulfillment. New York: Teachers College Press.

Conley, R. W. (1973). The economics of mental retardation. Baltimore: Johns Hopkins University Press.

Connis, R. T. (1979). The effects of sequential picture cues, self-recording and praise on the job task sequencing of retarded adults. Journal of Applied Behavior Analysis, 12, 355-361.

Connis, R. T., Sowers, J., Hudson, C., Thompson, L. E. & Dwiness, M. A. (1981). Employment skills. In R. T. Connis, J. A. Sowers & L. E. Thompson (Eds)., Training the mentally handicapped for employment (p. 18). New York: Human Sciences Press, Inc.

Cooke, T. P., Applloni, T. (1976). Developing positive social-emotional behaviors: a study of training and generalization effects. Journal of Applied Behavior Analysis, 9, 65-78.

Crnic, K. A. & Pym, H. A. (1979). Training mentally retarded adults in independent living skills. Mentally Retardation, 17, 13-17.

Cull, J. G. & Hardy, R. E. (1973). Adjustment to work. Springfield, IL: Charles C. Thomas.

Davis, P., Bates, P. & Cuvo, A. J. (1983). Training a mentally retarded woman to work competitively: Effect of graphic feedback and a changing criterion design. Education and Training of the Mentally Retarded, 18, 158-175.

Days, D. S. III. (1980). Equal employment opportunity for the handicapped. A consultation sponsored by the U. S. Commission on Civil Rights. In Civil Rights Issues of Handicapped Americans: Public Policy Implications (pp. 68-84).

DeRoo, W. M. & Haralson, H. L. (1971). Increasing workshop production through self-visualization on videotape. Mental Retardation, 9, 22-25.

Dinger, J. C. (1961). Post-school adjustment of former educable retarded pupils. Exceptional Children, 27, 353-360.

Dominowski, R. L. (1980). Research methods. Englewood Cliffs, NJ: Prentice Hall, Inc.

Dunn, D. J. (1974). Adjustment services: Individual program planning delivery and monitoring. Menomonie, WI: University of Wisconsin-Stout.

D'Zurilla, T. J. & Goldfried (1971). Problem solving and behavior modification. Journal of Abnormal Pscychology, 78, 107-126.

Eagle, E. (1978). Prognosis and outcome of community placement of institutionlized retardates. American Journal of Mental Deficiency, 72, 232 - 243.

Edgerton, R. B. & Bercovici, S. M. (1976). The Cloak of Competence: Years Later. American Journal of Mental Deficiency, 80, 485-497.

Ehlers, W. H., Prothero, J. C. & Langone, J. (1982). Mental retardation and other developmental disabilities. Columbus: Charles E. Merrill.

Fairbanks, R. E. (1933). The subnormal child--seventeen years after. Mental Hygiene, 17, 177-210.

Fernald, W. E. (1915). The burden of feeble-mindedness. Journal of Psycho Asthenics, 17, 87-111.

Fernald, W. E. (1919). After-care study of the patients discharged from Waverly for a period of twenty-five years. Ungraded, V, 25-31.

Fiestser, A. R. & Giambra, L. M. (1972). Language indices of vocational success in mentally retarded adults. American Journal of Mental Deficiency, 77, 332-337.

Flanders, J. F. (1968). A review of research on imitative behavior. Psychological Bulletin, 69, 316-337.

Foley, R. W. (1924). A study of the patients discharged from the Rome State School for the twenty year period ending December 31, 1924. Journal of Psycho-asthenics, 34, 180-207.

Foss, G. & Peterson, S. L. (1981). Social-interpersonal skills relevant to job tenure for mentally retarded adults. Mental Retardation, 19, 103-106.

Foxx, R. M. & McMorrow, M. J. (1983). Stacking the Deck. Champaign, IL: Research Press.

Foxx, R. M., McMorrow, J. M. & Mennemeier, M. (1984). Teaching social/vocational skills to retarded adults with a modified table game: An analysis of generalization. Journal of Applied Behavior Analysis, 17, 343-352.

Foxx, R. M., McMorrow, J., & Schloss, C. N. (1983). Stacking the deck: Teaching social skills to retarded adults with a modified table game. Journal of Applied Behavior Analysis, 16, 157-170.

Frederiksen, L. W., Jenkins, J. O., Foy, D. W. & Eisler, R. M. (1976). Social-skills training to modify abusive verbal outbursts in adults. Journal of Applied Behavior Analysis, 9, 117-125.

Francescani, C. (1982). MARC: An affective curriculum for emotionally disturbed adolescents. Teaching Exceptional Children, 14, 217-222.

Fulton, R. W. (1975). Job retention of the mentally retarded. Mental Retardation, 13, 26.

Fuqua, D. R., Rathbun, M. & Gade, E. M. (1984). A comparison of employee attitudes toward the worker problems of eight types of disabled workers. Vocational Evaluation and Work Adjustment Bulletin, 15, 40-43.

Gardners, W. L. (1971). Behavior modification in mental retardation. Chicago: Aldine Publishing Company.

Gegenheimer, R. A. (1948). A quarter century of community supervision of mentally deficient patients. American Journal of Mental Deficiency, 53, 92-101.

Gibson, F. W., Jr., Lawrence, P. S. & Nelson, R. O. (1976). Comparison of three training procedures for teaching social responses to developmentally disabled adults. American Journal of Mental Deficiency, 81, 379-387.

Goddard, H. H. (1913). The Binet Intelligence Test in relation to immigration. Journal of Psycho-Asthenics, 18,, 105-107.

Goldsmith, J. B. & McFall, R. M. (1975). Development and evaluation of an interpersonal skill-training program for psychiatric inpatients. Journal of Abnormal Psychology, 84, 51-58.

Goldstein, H. (1964). Social and Occupational Adjustment. In H. A. Stevens and R. Heber (Eds.). Mental Retardation. Chicago, IL: University of Chicago Press.

Goodall, P. A., Wehman, P. & Cleveland, P. (1982). Job placement for mentally retarded individuals. Journal of Rehabilitation, 14, 46-56.

Gould, S. J. (1981). The mismeasure of man. New York: W. W. Norton & Co.

Gronlund, N. E. (1985). Measurement and evaluation in teaching (5th ed.). New York: Macmillan Publishing Company.

Grossman, H. J. (1983). Classification in mental retardation. Washington, DC: American Association of Mental Deficieny.

Gunzburg, H. C. (1968). Social competence and mental handicap. London: Bailliere, Tindall & Cassell.

Hadley, F. P. (1982). Hiring issues and job placement. In T. F. Harrington, Handbook of career planning for special needs students, (pp. 68-75), Rockville, MD: Aspen Systems Corp.

Hasazi, S. B., Gordon, L. R., & Roe, C. A. (1985). Factors associated with the employment status of handicapped youth exiting high school from 1979 to 1983. Exceptional Children, 51, 455-469.

Heward, W. L. & Orlanski, M. D. (1984). Exceptional children. Columbus: Charles E. Merrill.

Hewett, F. M. & Forness, S. R. (1984). Education of exceptional learners. Boston: Allyn & Bacon, Inc.

Hill, J. W., Hill, M., Wehman, P. & Goodall, P. (1980). Differential reasons for job separation of previously employed mentally retarded persons across measured intelligence levels. Unpublished manuscript, Virginia Comonwealth University, Richmond.

Hill, M. & Wehman, P. (1983). Cost benefit analysis of placing moderately and severely handicapped individuals into competitive employment. The Association of Severely Handicapped Journal, 8, 30-38.

Hoehne, C. W. (1980). Accomplishments of the 1977 White House Conference on handicapped individuals. In Civil Rights Issues of Handicapped Americans: Public Policy Implications, pp. 31-44, Washington, DC.

Kazdin, A. E. (1982). Single case research design. New York: Oxford University Press.

Kazdin, A. E. (1984). Behavior modification in applied settings. Homewood, IL: The Dorsey Press.

Kennedy, R. J. R. (1962). A Connecticut community revisited: A study of the social adjustment of a group of mentally deficient adults in 1948 and 1960. Project No. 655, Office of Vocational Rehabilitation, Department of Health, Education and Welfare.

Kolstoe, O. P. (1960). The employment evaluation and training program. American Journal of Mental Deficiency, 65, 17-31.

Kolstoe, O. P. (1961). An examination of some characteristics which descriminate between employed and non-employed mentally retarded males. American Journal of Mental Deficiency, 66, 472-482.

Komaki, J. (1977). Alternative evaluation strategies in work settings; reversal and multiple-baseline designs. Journal of Organizational Behavior Management, 1, 53-77.

Krantz, G. (1971). Critical vocational behaviors. Journal of Rehabilitation, 14, 14-16.

Kratochwill, T. R. (1978). Single subject research. New York: Academic Press.

Kugel, R. F. & Wolfensberger, W. (Eds.). (1969). Changing patterns in residential services for the mentally retarded. President's Committee on Mental Retardation, Washington, DC.

Laradon Hall Occupational Center. (1966). The occupational success of the retarded: Critical factors, predictive tests and remedial techniques. Denver.

Laski, F. J. (1979). Legal strategies to secure entitlement to services for severely handicapped persons. In G. T. Bellamy, G. O'Connor & O. C. Karan (Eds.), Vocational rehabilitation of severely handicapped persons, pp. 1-32. Baltimore: University Park Press.

Levine, S. & Elzey, F. F. (1968). Factor analysis of the San Francisco Vocational Competency Scale. American Journal of Mental Deficiency, 73, 509-513.

Masters, J. C. & Branch, M. N. (1969). Comparison of the relative effectiveness of instructions, modeling and reinforcement procedures for inducing behavior change. Journal of Experimental Psychology, 80, 369-373.

Matson, J. L. (1980). Acquisition of social skills by mentally retarded adult training assistants. Journal of Mental Deficiency Research, 24, 129-135.

Matson, J. L., Machetti, A., & Adkins, J. N. (1980). A comparison of operant and independence training procedures for mentally retarded adults. American Journal of Mental Deficiency, 84, 487-494.

Matson, J. L. & McCartney, J. R. (1984). Handbook of behavior modification with the mentally retarded. New York: Plenum Press.

Matson, J. L. & Senatore, V. (1981). A comparison of traditional psychotherapy and social skills training for improving Interpersonal Functioning of Mentally Retarded Adults. Behavior Therapy, 12, 383-399.

McFall, R. M. (1982). A review and reformulation of the concept of social skills. Behavioral Assessment, 4, 1-33.

McKerracher, D. W. & Orritt, C. P. (1972). Prediction of vocational and social skill acquisition in a developmentally handicapped population: A pilot study. American Journal of Mental Deficiency. 76, 574-580.

Mental retardation: Century of decision report to the President. (1976). Washington, DC: President's Committee on Mental Retardation.

Mercer, J. (1970) Sociological perspectives on mild mental retardation. In C. Haywood (Ed.), Socio-cultural aspects of mental retardation. New York: Appleton Century-Crofts.

Mickler, M. J. (1984). Self-management skill training for educable mentally retarded persons. The Journal of Special Education, 18, 143-148.

Miller, J. (1962). Post school adjustment: A survey of fifty former students of classes for the educable mentally retarded. Exceptional Children, 32, 633-634.

Miller, S. R. & Schloss, P. J. (1982). Career-vocational education for handicapped youth. Rockville, MD: Aspen Systems Corporation.

Minkin, N., Curtis, J. B., Minkin, B. L., Timbers, G. D., Timbers, B. J., Fixon, D. L., Phillips, E. L. & Wolf, M. M. (1976). The social validation and training of conversational skills. Journal of Applied Behavior Analysis, 9, 127-139.

Moss, J. H. (1979). Post secondary vocational education for mentally retarded adults. Reston, VA: Council for Exceptional Children. ERIC Document Reproduction Services No. ED 188 379.

Nelson, E. (1984). The local church as a resource to persons with mental retardation living in the community. Unpublished doctoral dissertation, Brandeis University, 1984.

Nelson, R. & Gibson, F., Jr., & Cutting, D. S. (1973). Video- taped modeling: The development of three appropriate social in a mildly retarded child. Mental Retardation, 11, 24-28.

Neufeldt, A. M. (1978). Comprehensive vocation service systems for mentally retarded people--definition, principles and issues. In Vocational rehabilitation of the mentally retarded. Geneva: Internal Labour Office.

Neuhaus, E. C. (1967). Training the mentally retarded for competitive employment. Exceptional Children, 34, 625-628.

Nutter, D., & Red, D. H. (1978). Teaching retarded women a clothing selection skill using community norms. Journal of Applied Behavior Analyses, 11, 475-487.

O'leary, S. G. & Dubey, D. R. (1979). Applications of self-control procedures by children: A review. Journal of Applied Behavior Analysis, 12, 449-465.

Ollendick, T. H. & Hersen, M. (1979). Social; skills training for juvenile delinquents. Behavior Research and Therapy, 17, 547-554.

Ostby, S. S. (1982). Social problem-solving training with mildly retarded individuals. Dissertation Abstracts International, 43, 2320. (University Microfilm No. 8215954). (Doctoral dissertation, University of Wisconsin-Madison, 1982).

Ostby, S. S., Butler, A. J. & Glenberg, D. (1984). Assessment of social problem-solving skills in mental retardation. Vocational Evaluation and Work Adjustment Bulletin, 20, 9-13.

Peckham, R. A. (1951). Problems in job adjustment of the mentally etarded. American Journal Mental Deficiency, 56, 448-453.

Perry, A. & Cerreto, M. C. (1977). Structural learning training of social skills for the retarded. Mental Retardation, 15, 31-33.

Peterson, L. R. & Smith, L. H. (1960). A comparison of the post school adjustment of educable mentally retarded adults with that of adults with normal intelligence. Exceptional Children, 26, 404-408.

Platt, J. J. & Spivack, G. (1976). Manual for the means-ends problem solving procedure. Philadelphia: The Hahnemann Medical College & Hospital.

Rehabilitation Research Training Center (1985). Professional terms. Richmond, VA: Virginia Commonwealth University.

Roessler, R. T. (1983). Implications of social skill theory for enhancing vocational adjustment. Vocational Evaluation And Work Adjustment Bulletin, 18, 130-135.

Roessler, R. T. & Bolton, B. (1985). The work personality profile: An experimental rating instrument for assessing job maintenance skills. Vocational Evaluation and Work Adjustment Bulletin, 24, 8-11.

Rosen, M. & Hoffman, M. (1974). An inventory of inappropriate behavior. The Training School Bulletin, 71, 179-187.

Rosen, M., Clark, G. R. & Kivitz, M. S. (1977). Habilitation of the handicapped. Baltimore: University Park Press.

Rusch, F. R. (1979). Toward the validation of social vocational survival skills. Mental Retardation, 17, 143-145.

Rusch, F. R. & Mithaug, D. E. (1980). Vocational training for mentally retarded adults. Champaign, IL: Research Press.

Rusch, F. R., Schultz, R. P. & Heal, L. W. (1983). Vocational training and placement. In Johnny L. Matson and James A. Mulick (Eds.), Handbook of mental retardation (pp. 78-89). New York: Pergamen Press.

Rusch, F. R., Weithers, J. A., Menchetti, B. M. & Schultz, R. P. (1980). Social validation of a program to reduce topic repetition in a non-sheltered setting. Education and Training of the Mentally Retarded, 15, 208-215.

Rychtarik, R. G. & Bornstein, P. H. (1979). Training conversational skills in mentally retarded adults: a multiple baseline analysis. Mental Retardation, 17, 289-293.

Saenger, G. (1957). The adjustment of severely retarded adults in the community (A report to the NY State Interdepartmental Resources Board). Albany: Research Center Graduate School of Public Administration and Social Service, New York University.

Schapiro, J. A. & Berger, F. (1984). Responsibilities and benefits in hiring the handicapped. The Cornell Hotel Restaurant Administration Quarterly, 24, 58-67.

Schloss, P. J. & Schloss, C. N. (1982). Social skills training in the vocational rehabilitation of mentally retarded individuals. Vocational Evaluation and Work Adjustment Bulletin, 15, 142-146.

Schumaker, J. B. & Hazen, J. S. (1984). Social skills assessment and training for the learning disabled: Who's on first and what's on second? Part II. Journal of Learning Disabilities, 17, 492-499.

Sellin, D. F. (1979). Mental retardation: nature, needs, and advocacy. Boston: Allyn and Bacon.

Senatore, V., Matson, J. L. & Kazdin, A. E. (1982). A comparison of behavioral methods to train social skills to mentally retarded adults. Behavior Therapy, 13, 313-323.

Shushan, R. D. (1979). Work behavior rating scale (TER). In R. D. Shushan, Coordination of workshops for the mentally retarded in a metropolitan and suburban area (pp. 152-161). Los Angeles, CA: Exceptional Children's Foundation.

Sparks, H. L. & Younie, W. J. (1969). Adult adjustment of the mentally retarded: Implications for teacher education. Exceptional Children, 36, 13-18.

Spence, S. H. & Marzillier, J. S. (1978). With adolescent male offenders: Social skills training, short-term effects. Behavior Research and Therapy, 17, 6-16.

Stabler, E. M. (1974). Follow-up study of retarded clients from a training workshop. Mental Retardation, 12, 7-9.

Stacy, D., Doleys, D. M & Malcolm R. (1979). Effects of social-skills training in a community-based program. American Journal of Mental Deficiency, 84, 159-164.

Stanfield, J. S. (1973). Graduation: What happens to the retarded child when he grows up? Exceptional Children, 39, 548-552.

Stewart, J. M. (1977). Survey of community employer attitudes toward hiring the handicapped. Mental Retardation, 15, 30-31.

Storrs, H. C. (1924). A report on an investigation made of cases discharged from Letchworth Village. Journal of Psycho Asthenics, 34, 220-232.

Thomas, K. R., Britton, J. O. & Kravetz, S. P. (1974). Vocational rehabilitation counselors view the Judeo-Christian work ethic. Rehabilitation Counseling Bulletin, 18, 105-109.

Tisdall, W. J. (1960). A follow-up study of trainable mentally handicapped children in Illinois. American Journal of Mental Deficiency, 65, 11-16.

Thorensen, C. E. (1974). Intensive experimental research in counseling. Journal of counseling psychology, 21, 553-559.

Tobias, J. (1974). Evaluation of vocational potential of mentally retarded young adults. In L. K. Daniels (Ed.), Vocational rehabilitation of the mentally retarded. Springfield, IL: Charles C. Thomas.

Tobias, J. (1974). Vocational adjustment of young retarded adults. In L, K. Daniels (Ed.), Vocational rehabilitation of the mentally retarded. Springfield, IL: Charles C. Thomas.

Tobias, J., Alpert, I. & Birenbaum, A. (1969). A survey of mentally retarded adults in New York City (Report to the Office of Manpower Research), Manpower Administration. Washington, DC: U. S. Department of Labor.

Turner, S. M., Hersen, M. & Bellack, A. S. (1978). Social skill training to teach prosocial behaviors in an organically impaired and retarded patient. Behavior Therapy and Experimental Psychology, 9, 253-258.

Vocational rehabilitation of the mentally retarded. (1978). Geneva: International Labour Office.

Walls, R. T. & Werner, T. J. (1977). Vocational behavior checklists. Mental Retardation, 15, 30-35.

Walls, R. T., Werner, T. J. & Zane, T. (1979). The vocational behavior checklist. Dunbar, WV: West Virginia Research and Training Center.

Wehman, P. (1978). Toward a social skill curriculum for developmentally disabled clients in vocational settings. In O. C. Karan, P. Wehman, A. Renzaglia & R. Schutz (Eds.), Habilitation practices with the severely developmentally disabled, Vol. 1 (pp. 116-133). Madison, WI: University of Wisconsin.

Wehman, P. (1981). Competitive employment. Baltimore: Paul H. Brookes.

Wehman, P. (1985). Professional terms. (Avalable from Rehabilitation Research Training Center, 1314 West Main Street, Richmond, VA 23284-0001).

White, W. J. & Wimmer, B. D. (1982). The cognitively impaired. In T. F. Harrington (Ed.), Handbook of career planning for special needs students (pp. 105-128). Rockville, MD: Aspen Systems Corp.

White House Conference on Handicapped Individuals. (1977). Final report, Volume 2, Part A. Washington, DC: US Government Printing Office.

Wolf, M. M. (1978). Social validity: The case for subjective measurement or how applied behavior analysis

is finding its heart. Journal of Applied Behavior Analysis, 11, 203-214.

Wolfensberger, W. (1969). A new approach to decision-making in human management services. In R. B. Kugel & W. Wolfensberger (Eds.), Changing patterns in residential services for the mentally retarded (pp. 369-372). Washington, DC: President's Committee on Retardation.

Wolfensberger, W. (1980). The definition of normalization. In R. J. Flynn & K. E. Nitsch (Eds.), Normalization, social integration and community services (pp. 71-116). Baltimore: University Park Press.

Wolfson, I. N. (1974). Adjustment of institutionalized mildly retarded patients twenty years after return to the community. In L. K. Daniel (Ed.), Vocational rehabilitation of the mentally retarded (pp. 509-514). Springfield, IL: Charles C. Thomas.

Wright, G. N. & Reagles,K. W. (1971). The economic impact of an expanded program of vocational rehabilitation (Monograph No. XV Series 2). Madison: University of Wisconsin, Regional Rehabilitation Research Institute.

Wright, G. N. & Trotter, A. B. (1968). Rehabilitation Research. Madison: University of Wisconsin.

Younie, W. J. & Sparks, H. L. (1969). Adult adjustment of the mentally retarded: Implications for teacher training. Exceptional Children, 36, 13-18.

Zisfein, L. & Rosen, M. (1973). Personal adjustment training: A group counseling program for institutionalized retarded persons. Mental Retardation, 9, 16-20.

Zohn, C. J. & Bornstein, P. H. (1980). Self monitoring of work performance with mentally retarded adults: Effects upon work productivity, work quality and on-task behavior. Mental Retardation, 18, 19-25.